RAILROAD

35 CENTS MAGAZINE FEBRUARY

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Regardless of Cause!

The world's ONLY complete, nationally advertised nylon hosiery line actually guaranteed against runs, snags or excessive wear, REGARDLESS OF CAUSE! It's amazing, but true! No matter what the cause—hard use or deliberate abuse—Kendex nylons are replaced FREE if they run, snag or become unfit for wear within entire guarantee period! Every weight from sheerest 15 denier to heavy 70 denier—all gauges up to luxury 60 gauge—all sizes, lengths, popular shades, fancy heels, black seams—full fashioned and seamless. Nothing is missing to make sure every woman is pleased. In spite of the amazing guarantee, retail postage prepaid prices are no higher than comparable quality national brands. Should free replacement be necessary, actual cost is cut in half! How could any woman possibly resist saving money and solving her hosiery problems? NOT SOLD IN STORES. Men and women wanted NOW, spare or full time, to write orders and earn big money. You can get orders even if you never sold a thing in your life!

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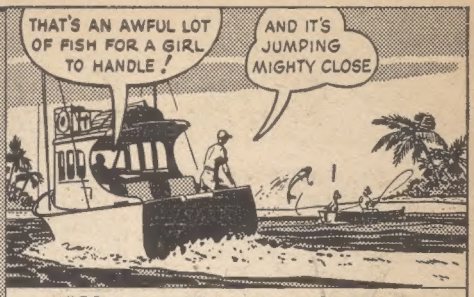
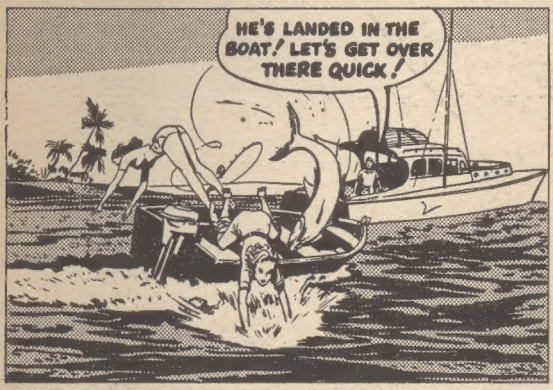


JERRY CANNON AND HIS BROTHER KIP ARE RETURNING TO PORT FROM A LONG DAY OF TROLLING FOR SAILFISH IN THE GULF STREAM. WHEN . . .



PICTURES? TAKE KIP HERE, BUT LEAVE ME OUT. I LOOK LIKE "BLACKBEARD THE PIRATE"
WHY NOT CLEAN UP IN THE CLUBHOUSE WHILE I GET MY CAMERA

SAY, THIS BLADE'S A HONEY! I'VE NEVER ENJOYED A QUICKER, SMOOTHER SHAVE
LOTS OF OUR MEMBERS USE THIN GILLETTES. THEY'RE REALLY KEEN

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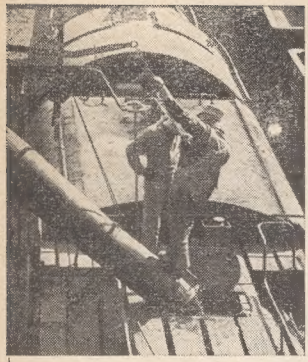
NEW TEN-BLADE PACKAGE HAS COMPARTMENT FOR USED BLADES



RAILROAD

MAGAZINE

Originally Railroad Man's Magazine, founded 1906

February, 1951 Vol. 54, No. 1 35 Cents

Cover: *"Overnighter" (Western Maryland)*
By Herb Mott

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EDITOR: Henry B. Comstock
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ELEC. LINES: Stephen D. Maguire
ED. ASS'T.: Dolores R. O'Leary

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Published monthly by Popular Publications, Inc., at 1125 E. Vaile Ave., Kokomo, Indiana. Editorial and Executive Offices, 205 East 42nd Street, New York 17, N. Y. Henry Steeger, President. John J. McVarish, Treasurer. Entered as second-class matter at the Post Office at Kokomo, Indiana. Copyright, 1951, by Popular Publications, Inc. This issue is published simultaneously in the Dominion of Canada. Copyright under International Copyright Convention and Pan-American Copyright Conventions. All rights reserved, including the right of reproduction, in whole or in part, in any form. Title registered in U. S. Patent Office. Single copy, 35c. Annual subscription for U. S. A., its dependencies, and Canada, Mexico and Cuba, $3.50; other countries, 75c additional. All correspondence relating to this publication should be addressed to 1125 East Vaile Ave., Kokomo, Indiana, or 205 East 42nd St., New York 17, N. Y. When submitting manuscripts, enclose stamped, self-addressed envelope for their return, if found unavailable. The publishers will exercise care in the handling of unsolicited manuscripts, but assume no responsibility for their return. Printed in the U. S. A.

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LOOKING BACK

STANLEY M. KENNEY

DON'T LET anyone tell you all the fun and adventure is monopolized by trainmen. Dangers lurk aplenty in the back shop, the roundhouse and working around the "big hammer" in the blacksmith shop. Sometimes it wasn't exactly safe even for me in the storehouse, handling heavy castings, moving ton-heavy locomotive wheels, and so forth.

This was way back in 1912, when the top pay for a machinist was two-and-a-half bucks for a nine-hour day, and we storehouse attendants received the magnificent sum of 14.9 cents per hour. Even now with one foot in the grave I can still remember the thrill of receiving my first two week's pay of eighteen dollars. The paycar used the bolt-rack spur behind the blacksmith shop, and when the word got around, there'd be a free-for-all to see who could get there first. Sometimes I wondered how many thousands of dollars that car held, and why it never was robbed.

In those days the Pennsy shops were the bread and butter of practically half the town of Olean, N. Y. Not only were many men employed in the motive shops—which included a roundhouse, back shop, blacksmith shop, machine shop—and a storehouse supplying the three divisions working from that terminal, but almost as many picked up their checks in the car shops on Wayne Street where all the cripples were repaired. Years later, after a strike deadlock, the car shops were dismantled, with the heavy work going to Dubois and Renova, Pa. With the advent of new industries, such as Clark Brothers, the majority of the striking wood craftsmen broke away from railroading, until all that was left of the once big shops was the motive plant in the North End.

I wonder how many oldtimers can still remember the big wheels who supervised

(Continued on page 8)

BE A SUCCESS AS A RADIO-TELEVISION TECHNICIAN

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America's Fast Growing Industry Offers You All Three

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And think of the opportunities in Television! In 1949 almost 3,000,000 Television sets were sold. By 1954 authorities estimate 20,000,000 Television sets will be in use. 100 Television Stations are now operating, with experts predicting 1,000. Now is the time to get in line for success and a bright future in America's fast growing industry. Be a Radio-Television Technician.

I TRAINED THESE MEN

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"Am authorized serviceman for 5 large manufacturers and do servicing for 7 dealers. N.R.I. has enabled me to build an enviable reputation in Television."—PAUL MILLER, Maumee, O.

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"Before finishing course, I earned as much as $10 a week in Radio servicing, at home in spare time. Recommend N.R.I. to everyone interested in Radio."—S. J. PETRUFF, Miami, Fla.

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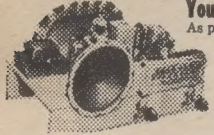
Have Your Own Business

Many N.R.I. trained men start their own Radio-Television sales and service business without capital. Let me show you how you, too, can be your own boss, have a good income from your own shop.



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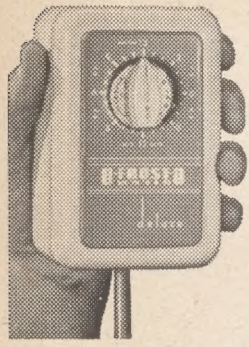

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the works at that time? G. E. Estes, a meek little man, was super at the storehouse; but in reality it was Henry Hill, a tall, stern youth of thirty, who ran the works. Frank Ryan, now a successful lawyer, had charge of the casting platform when I timidly applied for my first job. Hill put me inside as attendant, but I yearned for the outside air. It wasn't long before I substituted for the regular in charge of the bolt track, and I was happy.

I had my office in the east end of the long low storeroom which housed everything from sand to archbrick, and not more than ten yards from the blacksmith-shop office where Old Man Riggs presided. Because one of the big bosses, T. J. Riggs, was getting quite old, almost all the work coming into the blacksmith shop was taken care of by his assistant, C. Blaisdell. In his younger days, Riggs had invented a frog, and because of his contribution to the railroad, was allowed many privileges—some of which he did not hesitate to abuse. Actually he was considered only a figurehead; no one paid much attention to his frequent bellowings. Since I was still a green lad, however, I was deathly afraid of him.

I happened to be taking up cartooning at the time, and almost every day I'd draw a caricature of some foreman and place it under the glass in his office. One day I drew one of Old Man Riggs, but was too scared to do anything with it until Blaisdell saw it, and begged me to give it to him. I did, and he placed it where T. J. couldn't help seeing it when he came in from his free ramblings. I had one heck of a time next morning explaining its presence there, but nothing much happened after T. J. was allowed to blow off a little steam. I got to liking the eccentric old man, realizing the biggest danger was in his bark.

ONE DAY, while helping with one of the big locomotive rims, I came near getting killed. It required technique and skill to balance these babies, and took four men to roll one into position. The

(Continued on page 10)

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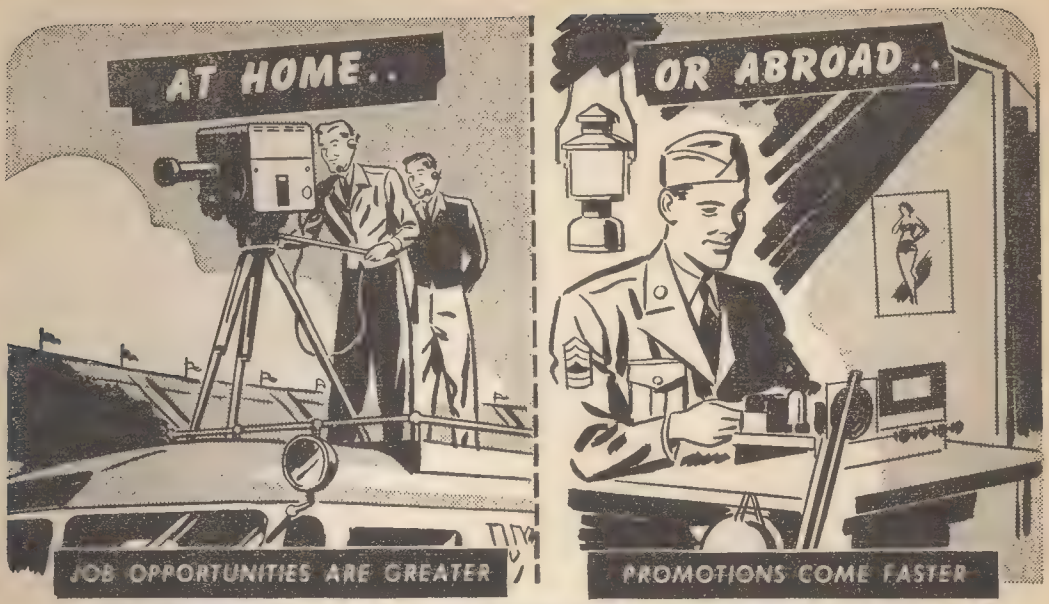
flats were easy, but the flanges were tricky to handle, especially when rolling them across the backshop track. Frank Ryan told me I was born lucky not to have my insides squashed into a pulp, when the others failed to balance their end.

As always, such accidents happen quickly and without warning. The six-foot rim hit the steel rail at too slight of an angle, and in skidding threw us all off balance, including the rim. As I ducked in the nick of time, I could see and feel its awful weight pressing down. Even six men wouldn't have a chance of withholding its fall. That large hole in its middle certainly looked welcome at that moment.

Then there was the time, when I was in charge of the bolt rack, when one of my men almost lost his life in a bolt slide, getting himself buried alive under a stack of iron bolts. Supplying three divisions called for a lot of bolts, bolts of many sizes. We used to ship a car a day, and the threading machines were kept at full speed. While the laborers wheeled the bolts to the platform, my men would stack the various sizes separately. The shorter lengths were stored in bins, while the longer babies, from one foot up, had to be stacked out in the open to save room. It looked simple. Yet it required great skill to stack these long bolts, tier upon tier, so that they held together. Some of these stacks would hold several thousand bolts weighing several pounds each, so you can imagine the damage they could do if they once started rolling.

I allowed one of the green hands to continue where an old hand had left off one day, without instructing him properly and warning him of the potential danger if he worked carelessly. Not only was his technique bad, his perspective was way out of focus. I saw that instantly when I arrived at the scene of the disturbance to find the stack looking like the leaning Tower of Pisa. The fault was mine, however. I'd been taking it easy in my cubbyhole, wondering whether Wilson would win over Taft, and if it would pay me to bet on the Progressives, when I heard a

(Continued on page 12)



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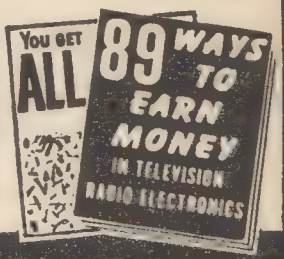

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panicky yell from the direction of the bolt rack.

As I approached on the run, I noticed that green hand trying to hold up a sliding mountain of iron weighing tons, by brute force. I yelled at him to drop everything and get the hell from under. But the damn fool persisted in his efforts to hold up the crumbling mountain, shouting for me to help him. I guess he hated to see the day's work ruined, yet realizing by experience how tricky and slippery those bolts can be once on the move, I commanded him to let go. Before I could tear him away from the danger, however, slowly but irresistibly that huge stack slid over him, breaking his legs like toothpicks. Only a miracle prevented the squashing of this loyal but foolish fellow.

It took several minutes to free him from his prison. Naturally I was to blame for the misfortune and came near to getting canned. Being so close to death had scared the poor workman and after leaving the hospital he wouldn't approach a stack of bolts for a million dollars. He had learned his lesson the hard way, as most of us do. As it turned out, I still had to learn mine.

With five men doing all the hard work, I got lazier and more careless as time went on. With the head office so far away and knowing Hill's schedule, I killed time by reading papers, smoking, drawing lousy cartoons and still damning my luck for becoming stuck in such a stinking groove. I certainly failed to realize how soft I had it, but that is the way of life: come easy, go easy.

While in the midst of one of these sprees, the door popped open quietly and Henry Hill stood in the opening, surveying the setup. I had a pipe in my mouth, funny papers spread in my lap, and my No. 8s cocked up on the crude desk in front of me. I guess I looked like anything but a hard-working employe to him, but he turned without a word of reprimand and closed the door silently. Oh, how I hated that silent way he had about him! However, not ten minutes later I received an order from the head

(Continued on page 14)

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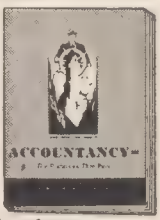

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office to send in my men, all of them. I was humiliated.

Having many orders to fill that afternoon, I had to work like the proverbial drafthorse. My dander was up, however, and I decided to do the job alone if it killed me. I was mad; not only at my super but at myself for being so dumb as to be caught redhanded like a teenage schoolboy. Hell, I thought, I didn't have to stick to such a hellish job, paying the lowest rates in the shops. I'd tell him a thing or two.

At quitting time I entered the sanctum and gave Hill my ultimatum: if I was expected to do five men's work, I'd have to be paid for it. He came right back by reminding me that if I had the time to read the papers and smoke on company time, I didn't need men. Not having an appropriate comeback just at the moment, I angrily refused to take my workcheck and didn't show up next morning.

With wounded pride I got a job next day in the Union Cutlery, operating the grinders. Being just a foolish lad, I refused to return to the shops when Hill sent Ryan after me a few days later, promising me a higher rate. I'd have had a lifetime job if I hadn't been so damned proud. Bitter experience has taught me to stick to one job and to one employer, especially if he's as big as the Pennsy.

RETIRED

WITH active days in dreamy eyes,
Nostalgic sounds on willing ears,
The old conductor "joins" the guys
With whom he worked in yester years.

The mumbling couplers, signal lights,
The roar of rails, the grip of air
Come flitting through the silent nights
And roost around his easy chair.

No matter what locale he picks
Or what he does, there's bound to be
That undertone of rhythmic clicks
And flimsies snagged for C and E.

Charles D. Dulin

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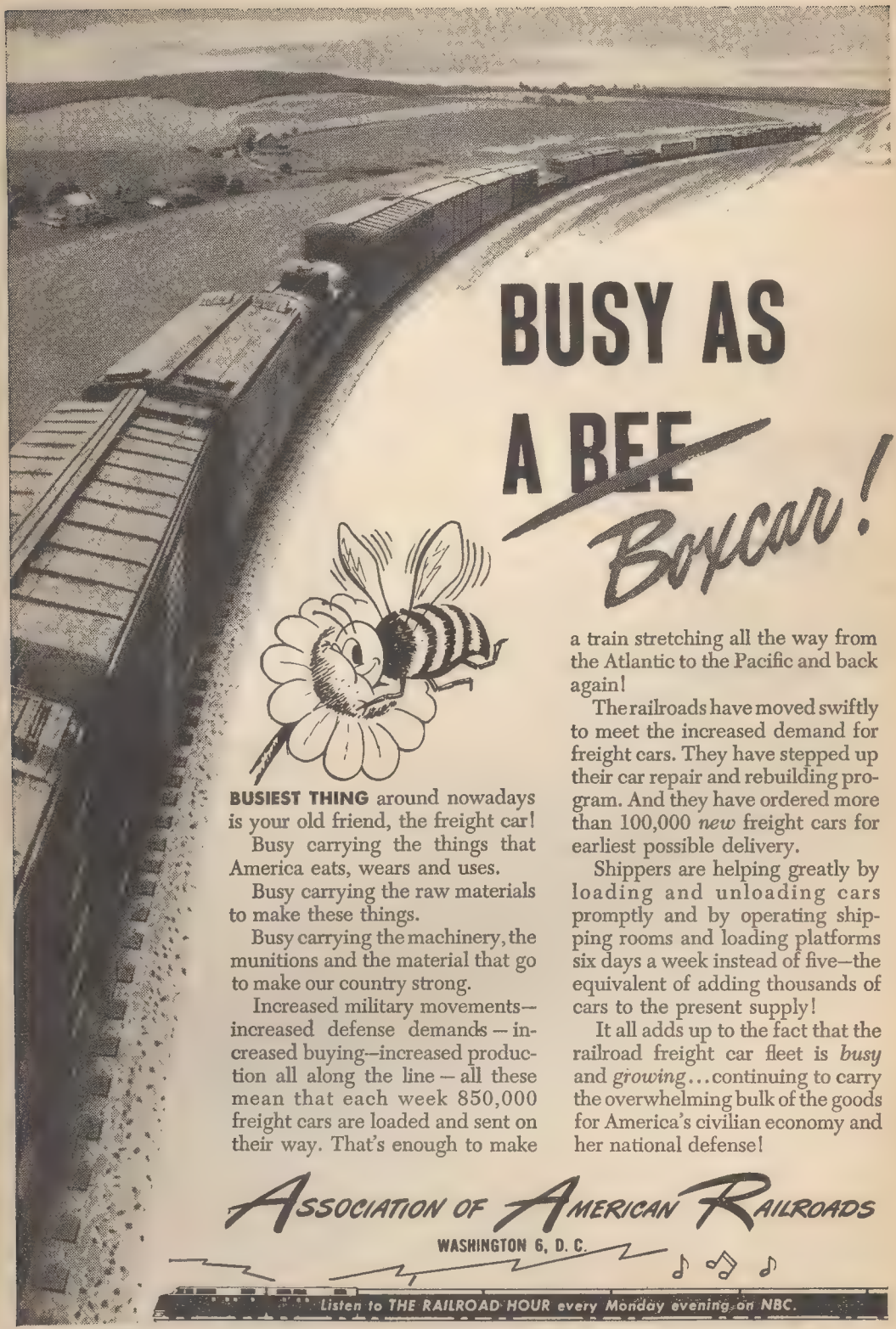
Nelson & Albemarle

Photos: W. R. Hicks

Taken at Schuyler, Va. the pictures show two N&A saddle tank engines, 10 and 11, and long unused open-vestibule combine

FERROEQUINOLOGISTS of Richmond, Virgina's Old Dominion Railway Club were among those who took a sentimental ride on the last passenger run of the Nelson & Albemarle Railway last February. Other riders were people who all their lives had lived in the vicinity of the 9-mile line which runs between Schuyler and Warren, where it connects with the Chesapeake & Ohio.

With a standard caboose replacing the old stove-heated coach borrowed from the C&O, the Nelson & Albemarle will go on running its freight train twice daily with mail, pulpwood, merchandise and soapstone from the quarries around Schuyler.



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Increased military movements—increased defense demands—increased buying—increased production all along the line—all these mean that each week 850,000 freight cars are loaded and sent on their way. That's enough to make a train stretching all the way from the Atlantic to the Pacific and back again!

The railroads have moved swiftly to meet the increased demand for freight cars. They have stepped up their car repair and rebuilding program. And they have ordered more than 100,000 *new* freight cars for earliest possible delivery.

Shippers are helping greatly by loading and unloading cars promptly and by operating shipping rooms and loading platforms six days a week instead of five—the equivalent of adding thousands of cars to the present supply!

It all adds up to the fact that the railroad freight car fleet is *busy* and *growing*... continuing to carry the overwhelming bulk of the goods for America's civilian economy and her national defense!

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TALK "BIG ENGINES" on anybody's railroad and sooner or later the question is asked: "How does she stack up against *Big Boy,*" or: "Sure she's the handsomest 4-8-4 ever built, but will she handle 20 heavyweights like a Union Pacific 800?"

Unconsciously, these comments are high tribute to the late Otto Jabelmann, Union Pacific's chief of motive power, and to the UP's Research and Mechanical Standards' Department which, during a period of economic recession, laid the groundwork for new highs in freight and passenger engine performance.

Like her competitors to the north and south, the Union Pacific is both a flat-land and a mountain carrier. See mile on mile of Nebraska roadway with not a trace of a dip in the well-ballasted Overland Route, and it is hard to associate its rails with Weber Canyon and the heart-breaking pitch of Sherman Hill. Still harder, until the advent of the multi-unit Diesel, has

been the lot of the locomotive designer faced with the task of producing power capable of taking over prairie tonnage and hoisting it, in unbroken trains, to the ridgepoles of the Rockies and the Wasatch Range.

JOHN A. THOMPSON

First lot of UP 4-8-4s is readily identified by separate sand and steam dome housings, together with 6-wheel tender trucks. Here's an early shot of the 816 getting a wheel on a string of ***Challenger*** coaches west of Omaha

"Eliminate double-heading. We're handling umpty-umph tons with one engine east of Cheyenne. Build us a jack that will do as well into Ogden."

That order has upped the weight and power of Union Pacific locomotives time after time since '69. For no sooner has a new behemoth met the challenge than pencils scratch again as brass-collars dream of bigger and better flat-land performance.

Naturally the ideal motive power unit would be one which could wheel a heavy train over all parts of the system as fast as speed boards would permit. This, then, was the engine which Jabelmann and his department set out to design for passenger service in 1937.

At that time UP was assigning its grand old 7800 Class *Mountain* type engines to heavy name-trains out of Council Bluffs. Eleven years of service on other roads had established the superiority of the 4-8-4 type for hard, sustained running; its larger firebox and ample boiler spelled *horsepower*—and that was what UP was after.

THEY GOT IT in the 800 Class. Here was a big, free steamer bearing Alco's rectangular plate, which tipped the beam at 1,291,330 pounds in working order, and measured 111 feet from knuckle to knuckle. Her starting tractive effort of 63,500 pounds was somewhat less than that of her Chicago & North Western Class H teammates, despite the fact that she carried 300 pounds' boiler pressure as against the North Western engine's 250. This was accounted for by a one-inch-greater wheel diameter (77 vs. 76 inches), somewhat smaller cylinders, and less weight on driving wheels. Grate areas were nearly identical.

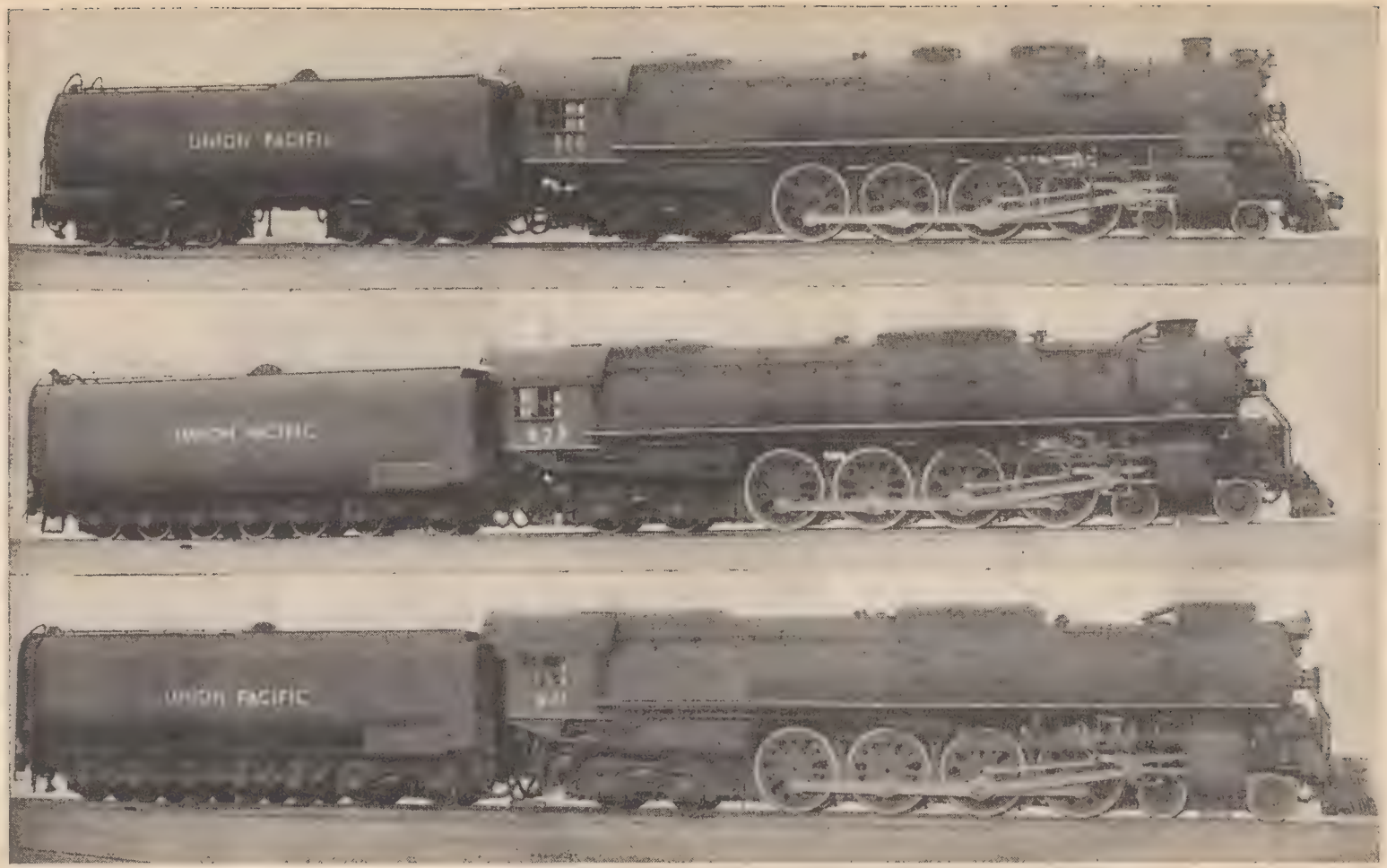
This comparison of specifications has no significance on the basis of superiority of design. It is cited only to illustrate UP's objective. For while both engines may rightfully be classed as dual-service jobs (adapted to both manifest freight and heavy passenger assignments) the North Western machine has always been first and foremost a merchandise hauler, while Union Pacific's 800s, as already stated, were intended primarily for high-speed passenger hauling.

Innovations of mechanical design marked every detail of the twenty engines in the first group. Each of the first three driving axles was equipped with a lateral cushioning device. On the front axle a ¾-inch movement each side of center was provided, with an initial resistance of approximately 17 percent of the spring-borne load, increasing at the rate of about 2000 pounds for each ⅛-inch of travel. Cushioning devices on the second and third driving axles permitted less side motion (5/16-inch), with an initial lateral resistance of 8 percent of the spring-borne load. The result was a degree of flexibility on curves which held flange wear to a minimum while, at the same time, sufficient rigidity was retained to prevent nosing on the straightaway.

The siderods differed from conventional design. Developed by the UP's research department, they were of the "articulated" type. That is to say, each rod was hinged directly to the next at the driving wheel crankpin, instead of having an independent knuckle pin connection. Less weight—less wearing surfaces—less maintenance.

Modern metallurgy played an important part in the design. Driving axles, main and siderods, crankpins and piston rods were fashioned of heat-treated, low carbon, nickel steel. The piston heads were lightweight alloy steel with three T-section combination bronze and cast iron piston packing rings. The crossheads were manganese-vanadium alloy steel castings, operating in multibearing guides surfaced with pure tin.

To reduce hammer blow to a minimum, an extensive study of counterbalancing demands was made. The weight of the reciprocating parts on each side of the locomotive was nearly one ton (1880 pounds). Thirty percent of this was divided equally among all wheels, in addition to complete balancing of the rotating



Evolution of a *Northern* type, with still more refinements to come. Smoke lifters, Mars headlights and a gray-and-black color scheme are among the newer trappings applied to units of all sub-classes

weights. Secondary, or cross balancing, to compensate for the 90-degree variance in crank pins on the two sides of the engine, was applied to the main drivers only, in the form of a removable weight inserted in a pocket on one side of the primary counterbalance of each main wheel.

Crew comfort was considered in the big, if not particularly handsome cab. Enginemen's seats were adjustable, horizontally and vertically, and there was an extra seat on either side of the cab. Walls were insulated and lined with Masonite; there were clear vision windows with air defrosters at the front, and adjustable windshield wings. The entire cab was supported from the boiler, preventing any shearing or distortion stresses which might result from the expansion and contraction of so large a barrel.

HOW DID THE 800s stack up in service? On a test run conducted in conjunction with the AAR, one of the original series locked knuckles with a 1000-ton passenger train comprising 16 cars and attained a speed of 102 miles an hour between Grand Island and Omaha, on a slightly descending grade. The engine had been built for 90-mile-an-hour top performance and average road speeds of a mile-a-minute!

Still not satisfied, the boys in the drafting room went to work on plans for a superior sub-class in 1939. Bigger leading wheels (42 inch) and improved spring suspension; higher drivers (80 inch); twin sand domes set in tandem with the steam dome and housed in a single casting; a solid wind-screen linking the air pump shields; roller bearings on all axles; slightly increased cylinder diameter.

But the outstanding innovation was a pedestal-type tender bed to replace the 6-wheel swiveling trucks used with the initial modified Vanderbilt tanks. Designated the 4-10-0 type, this unique fuel and water carrier has a leading truck of the swing bolster type, followed by five sets of rigidly mounted wheel assemblies, the journal boxes of which rise and fall in pedestals cast as an integral frame. The result is a tank with greater water and fuel capacity within a fixed total wheelbase, material reduction in tender weight, lighter load per wheel, more uniform weight distribution at the rail and larger diameter wheels with a lower center of gravity for the tank. That last means more miles between wheel turnings and better riding conditions at all speeds. We have the picture of a tender, then, which walls up 23,500 gallons of water and 6000 gallons of oil in the surprisingly short overall length of 45 feet, 3 inches.

The perfect 4-8-4 design, these engines numbered 820 through 834. You would have thought so, for here was a machine capable of operating continuously under maximum horsepower output at 90 mph. Calculations were based on 110 mph. top speed, or 100 mph. operating speed.

This, however, was not the UP viewpoint. The wartime needs of 1944 called for another batch of 800s; ten more units, numbered 835-844.

"Give 'em twin stacks—one for each cylinder to prevent a restricted draft. How about smoke lifters, to keep the exhaust clear of the cab. Put heat indicators on every journal and driving box."

And so we have the story of a great *Northern* type; not quite so large as the Santa Fe and Northern Pacific giants, nor capable of starting as heavy a load as N&W's phenomenal J Class. But a mighty engine, nevertheless, tailored for a given set of operating conditions and bowing to none in the matter of horsepower per pound of engine weight.

From Cheyenne these 800s may be dispatched eastward on a 500-mile run to Council Bluffs. Or westward to Green River, Wyoming, 300 miles; Ogden, Utah, 480 miles; Pocatello, Idaho, 550 miles; or perhaps Pendleton, Oregon, 1060 miles. They literally roam the breadth of the magnificent West. On eastbound runs they are road-serviced at Sidney, North Patte and Grand Island. Westbound road service stops are Lara-

Rail Photo Service

mie, Rawlins, Green River and Evanston, in Wyoming; Ogden, Utah; Montpelier, Pocatello and Glenn's Ferry, in Idaho, Huntington, La Grande and Pendleton, in Wyoming. They may be turned and serviced at Council Bluffs, Green River, Ogden, Pendleton and Denver.

BACK in the early 1900s the Santa Fe played around with some of the most unusual *Mallet* designs ever dreamed up by an overzealous motive power department. Hinged boilers and *Quadruplexes* —a high-wheeled passenger job. So magnificent was the performance of most of

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Opposite page, top: Under a sullen afternoon sky the 835 streaks eastward with the ***San Francisco Overland***, near Buford, Wyo. ***Opposite page, bottom:*** Fifteen minutes later Number 4, the ***Utahn***, follows in her slipstream. ***Below:*** unlike Utahn-hauling 823, No. 832 has not been refitted with twin stacks. Her assignment, here, is the ***Fast Mail***, 18 cars out of North Platte, Nebr.

Rail Photo Service

these Rube Goldbergs that the Route of the Holy Cross became disgusted with the very thought of hinged engines and never again until World War II was the muffled exhaust of one of these babies heard on Raton Grade. Yet in the passenger job the germ of an idea lay dormant, awaiting only an efficient boiler and improved lateral stability to bear fruit.

In 1931 the Baltimore & Ohio ordered two experimental simple articulateds with 70-inch drivers. Of the 2-6-6-2 wheel arrangement, they proved, where proof was needed, that the 4-cylinder locomotive was not necessarily a cabbage cutter, unable to keep clear of its own fog. Four years later the Pittsburgh & West Virginia and the Seaboard Air Line followed with somewhat similiar engines, but using a 4-wheeled trailer truck.

"Why not," reasoned Jabelmann, "a 4-wheeled leading truck, too. Better stability at speed." Thus, in 1936, was born a new engine type, the impressive *Challenger*. Equally at home at the head end of a fabulously long and heavy troop train speeding westward at 70 per, or a mile-long manifest on a heavy grade, this big girl caught the fancy of motive power departments from Mechanicsville, N. Y. to Seattle, Washington. Count Northern Pacific; Seattle, Portland & Spokane; Western Pacific; Denver & Rio Grande Western; Delaware & Hudson, and the Clinchfield among disciples of this wheel class.

Much has been written of the original UP *Challengers*. Primarily designed to handle maximum tonnage on top speed schedules, without helper service, over the rolling territory between Laramie and Green River, they were adaptable to serv-

ice on any other part of the UP, for while they produced maximum power output at 40 miles an hour they had a top rating of twice that speed.

Yet for downright beauty of design they cannot hold a candle to the subsequent 3950 Class, which made its appearance in 1942. Here, in this author's opinion, is the articulated engine in its most handsome form—compact, perfectly balanced, and free from the over-abundance of plumbing detail which marks too many of its contemporaries.

bility as the locomotives swung around curves and at the same time afford a high degree of rigidity when operating on tangent track. In the articulated 4-6-6-4s the arrangement of the running gear was worked out on the lever principle. The important consideration is to fit all wheels of the locomotive to the rails on curves, with maximum freedom from binding, and to adjust the wheels to vertical curves encountered in changes of grade with a minimum disturbance to the weight distribution of the locomotive.

Fred H. Ragdale, Box 476, Big Bear City, Calif.

Second section of the *Los Angeles Limited* rates the 827, looming large in gray livery. Tapered rods show clearly in this photo, taken in Laramie under the searching light of the early morning sun

THE STURDY *Challengers* have a total length over couplers of 121 feet, 11 inches. They weigh in working order 1,063,500 pounds and have a starting tractive effort of 97,380 pounds.

Notable in their construction is the design of the running gear, which was especially developed to provide great flexi-

By the term "lever principle," locomotive designers refer to a system of stability which makes use of a selected pivot point in the locomotive wheelbase, about which the mass of the locomotive rotates with respect to the track as the locomotive passes around curves. On a six-coupled driving-wheel

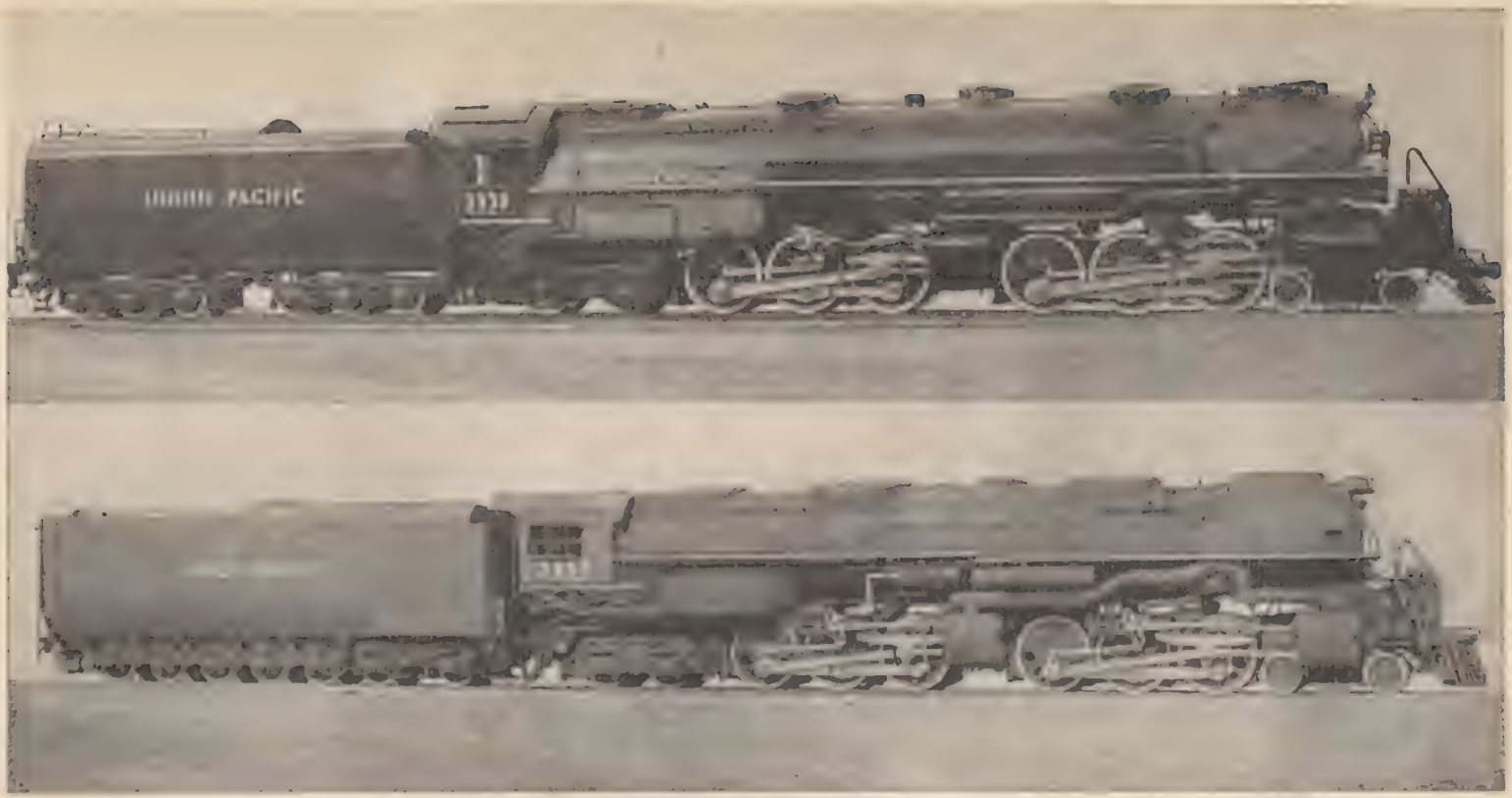
Richard Kindig

Smoke lifters clapped to her ears to shut out a thundering exhaust, 841 gives the *City of Los Angeles* a helping hand on Sherman Hill

base this point is the rear pair of driving wheels in which no provision is made for lateral movement of the axle with respect to the engine bed. By contrast the guiding wheels on the front engine unit (the front pair of truck wheels and the front pair of driving wheels) are provided with ample lateral movement against controlled resistance. The initial resistance of these wheels is about 17 percent, increasing gradually as the movement progresses. The second pair of driving wheels adjusts itself freely against a somewhat lower initial resistance and through a somewhat

No orders for Extra 3954 at Granite Canon, Wyo. It takes two *Challengers* to keep her 83 cars rolling at a steady 35 mph.

Richard Kindig



Original *Challengers (top* photos) were numbered in the 3900 series; later became the 3800s. Newer version *(lower* photo) is better proportioned, has many parts which are interchangeable with those of still larger *Big Boys.* Units built to the same specifications, and assigned to the Denver & Rio Grande during World War II; were later sold to the Clinchfield

smaller range of lateral movement than that effective on the driving wheels. Wheels back of the pivot pair control rear end movement of the locomotive against an initial lateral resistance somewhat lower than that of the guiding wheels.

The net effect of this arrangement is to produce a rigidly guided locomotive when on a tangent track, yet an engine which adjusts itself freely on curves with a guiding force cushioned in its application. The locomotive, in other words, moves around curves without the succession of violent jerks or violent guiding oscillations characteristic of many types of steam power.

In the *Challengers* the two engine beds of the locomotives are connected by a vertical articulation hinge with the pocket and pin at the front end of the rear engine bed and the tongue at the rear end of the front engine bed. The engine units are completely rigid in a vertical plane. All adjustment to vertical curvature is obtained through the spring rigging suspension. Driving wheel diameters over the tires is 69 inches.

The live steam and exhaust steam pipes in the 3900s are larger than the steam pipes heretofore applied to simple articulated locomotives. Moreover, by the use of a short rotating steam pipe connection at the cylinders, to the outer end of which the longer hinged connection to the branch pipe is attached by a flexible joint, these pipes adjust themselves to the lateral movement of the front engine without the use of slip joints. The three flexible connections in each pipe are full ball joints, permitting complete freedom of adjustment. Though the use of ball joints at these locations is not new, the installation of them on the *Challengers* has been materially simplified in design.

The cylinders in these 4-6-6-4s, together with the back cylinder heads are cast integral with the engine bed. Both cylinders and valve chambers have gun-iron bearings. Steam distribution is effected by 12-inch piston valves, and is controlled by Walschaert valve gear. The reverse gear is a special type with a 12-inch by 24-inch cylinder. Compensating springs are applied to the reverse shafts on both engines.

Challenger boilers have three barrel courses. The first course is conical with a front inside diameter of almost 95 inches, while the third course, surrounding the combustion chamber, has a 102-inch outside diameter. The firebox is 187 inches long and 108 inches wide. The combustion chamber is 106 inches long. The crown sheet is about 22 feet long and has a relatively small slope, the highest point at the front tube sheet being only 1¾ inches higher than the lowest point at the door sheet.

All seams in the firebox, including the attachment of the back tube sheet to the combustion chamber, are welded. There is also a complete installation of flexibles around the combustion chamber, and over the crown sheet. There are flexible bolts along the top of the side sheets, across the top rear corner of the side sheets, and around the rear corners of the firebox. Flexible bolts are likewise applied at all locations on the backhead under the cab deck.

In the coal burners the firebar grates have 12 percent air openings. The stoker is a standard type MB with the stoker engine installed in the tender. A conventional outside mixing burner is used on the oil-burning 4-6-6-4s. Boiler feed water equipment includes a live steam injector on the right side, and an exhaust steam injector with remote control and centrifugal pump on the left side. The exhaust steam injector is started and stopped by a simple starting valve and the amount of water delivered to the boiler is regulated by an indexing handle in the cab, which is the only manual control and does not need to be moved when the injector is shut off. The operation is entirely automatic once the starting valve is opened.

Up in the cab of the *Challengers* the throttle quadrant has a double quadrant

Highest number of her class. Extra 3999 shows a black exhaust through Wahsatch, Utah

and latch to permit half-notch adjustment of the throttle. It has also been designed to provide more than usual head room in the cab.

Tenders for the *Challengers* are of the 42-inch diameter wheel, 4-10-0 type, similar to those used on the 800 Class locomotives. They have a water capacity of 25,000 gallons. Tenders assigned to coal-burning *Challengers* have a 28-ton capacity; those assigned to oil-burning 4-6-6-4s carry as a full load 5945 gallons of fuel oil.

STEAM ADVOCATES still like to talk about the test runs conducted with one of these *Challengers* between Laramie and Green River, to determine their performance on rolling terrain. On the westbound run the huge 3900 job, still smelling of new paint and groomed to perfection, eased out of Laramie at 4:50 p.m. with Engineer J. L. Gillette at the throttle and H. S. Helm doing the honors with the automatic stoker. Behind her were 65 loads and 5 empties totaling 3085 tons. The ruling grade on the 251-mile run is .82 percent. At exactly 8 p.m. the train rolled into Rawlins, having made one intermediate stop at Hanna (10 minutes) for coal and water. Reserviced and refueled at Rawlins, she continued her westward way at 9:50 p.m. under the throttle hand of Engineer J. E. Gholson, assisted on the left-hand side by Fireman J. A. Schrenkengost. Another 10 minute fueling stop at Bilter Creek saw her by the Green River switch at 1:45 a.m. Average speed had been 39.1 mph., and she had chewed up 80.3 pounds of coal for each 1000 gross ton miles, at a firing rate of 9684 pounds per hour.

The eastbound movement was again made with a train of average length—62 loaded and 10 empties, equaling 3575 tons. The ruling grade was the same .82 percent, and the same stops were made. Engine crews consisted of Engineer J. J. Lynch and Fireman E. G. Joyce from Green River to Rawlins, and Engineer L. H. Schumacher and Fireman R. S. Mast, Rawlins to Laramie. The train departed from Green River at 7:20 p.m., arrived at Rawlins at 11:40 a.m.; was on its way again at 12:01 a.m., and passed Laramie switch at 3:25. On this run the *Challenger* consumed a little more than 41 tons of coal and evaporated 49,536 gallons of water to maintain an average speed of 37.5 mph. The firing rate was 12,443 pounds per hour of running time, or 92.8 pounds per 1000 gross ton miles.

On the basis of these and similar performances the 3900s, which today total 65 units, are now working North Platte-Cheyenne, and Denver-Laramie-Green River iron. The earlier 3800s, of which forty were built, operate between Denver-Laramie-Cheyenne, Pocatello- La Grande, and Butte-Green River.

ON ANYBODY ELSE'S railroad the 3900s might well be rated as top power. The fact remains that on UP they have been all but completely overshadowed by the 4000s; the fabulous *Big Boys* with their 4-8-8-4 wheel arrangement. This is partly due to the fact that the latter were introduced between the building dates of the last 3800s and the first 3900s in 1941. As a result, and in accordance with the best principles in overall motive power policy, every effort was made to provide interchangeability of parts in the two classes. Measuring 140 feet between striking surfaces and powered by four 23¾-inch by 32-inch cylinders the 4000s develop a starting tractive effort of 135,375 pounds and, with their 68-inch drivers, are capable of maintaining a sustained speed of 70 miles per hour. Their grate area of 150.3 square feet is an indication of the 7000 horsepower rating which makes them the most outstanding performers in the articulated engine field. Tender capacity, like that of the *Challengers,* is 28 tons of coal and 25,000 gallons of water. The combined weight of engine and tender, with the latter three-fourths loaded, is approximately 1,110,000 pounds.

At the present time it seems unlike-

(Continued on page ...)

Union Pacific

Above: **Up from the Weber River Canyon climbs the 4018 with half a mile of reefers at her tail.** ***Below:*** **Farther down the valley the original 4000 oozes steam at every pore as she writes an amazing story on the graphs of a dynamometer car**

Union Pacific

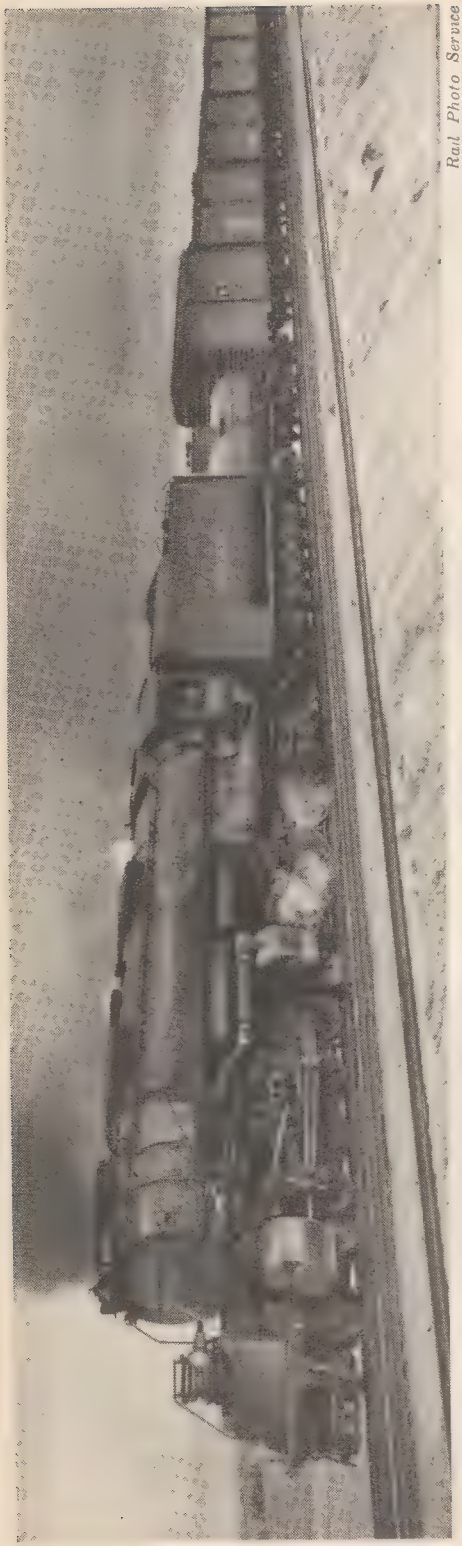
Devil's Gate drowns out the hoarse exhausts of the 4019 with a score of frosty cross echoes. Even the world's biggest engines look insignificant in this titanic setting

Rail Photo Service

Shakedown run. The 4002 gets a final check before working her first payload out of North Platte

Union Pacific

Cracking the whip with California perishables. Swift-flowing Weber has carved a spectacular staircase for rails and U.S. 40



Rail Photo Service

Dropping down Sherman Hill. The 4009s are said to develop over 7000 hp., thanks to their 150.3 grate area and relatively high (68 inch) drivers

(Continued from page 31)

that a larger conventional steam locomotive will ever be built. UP which, with Burlington, , pioneered the lightweight Diesel-powered streamliner, was slow to accept the multi-unit freight Diesel. But once on the bandwagon she has been making canary-yellow replacements of steam power with startling rapidity. At the present time there are approximately 530 Diesel units in passenger freight and switching service, as against 995 steamers. Barring unforeseen developments the older steam classes can be expected to disappear from the roster by the mid-Fifties. But it's a safe bet the 800s, 3900s and 4000s will be blasting their defiance at the big hills and the open prairie miles for a good many years to come. Diesel trend or no—they have their staunch supporters among the men who wheel the tonnage.

Union Pacific Engineer D. F. Beck is one of them. He says: "There are three primary reasons why I prefer steam locomotives over Diesels. All are based on my experiences in handling heavy freight trains with both types of locomotives on both medium and heavy grades:

"Reason One. I find steam locomotives more efficient in starting trains on heavy grades.

"Two. I believe there is better acceleration on heavy freight consists with a steam locomotive at the head end, and that when encountering medium grades the steam locomotive loses less momentum with a properly adjusted valve travel. Moreover, there is less danger of damage to the locomotive in starting full tonnage and consequently fewer delays. I have experienced delays in starting heavy trains with Diesels due to ground relays kicking out.

"Three. Steam locomotives have fewer moving parts. This makes for fewer possibilities of engine failure. In addition, in event of an engine failure on a steam locomotive the trouble is easier to find. So many small things can go wrong on a Diesel that Diesel engine failure causes are not always readily detected."

Rail Photo Service

Over a line laid out by Brigham Young, Salt Lake City traffic speeds to and from Ogden and the main-stem

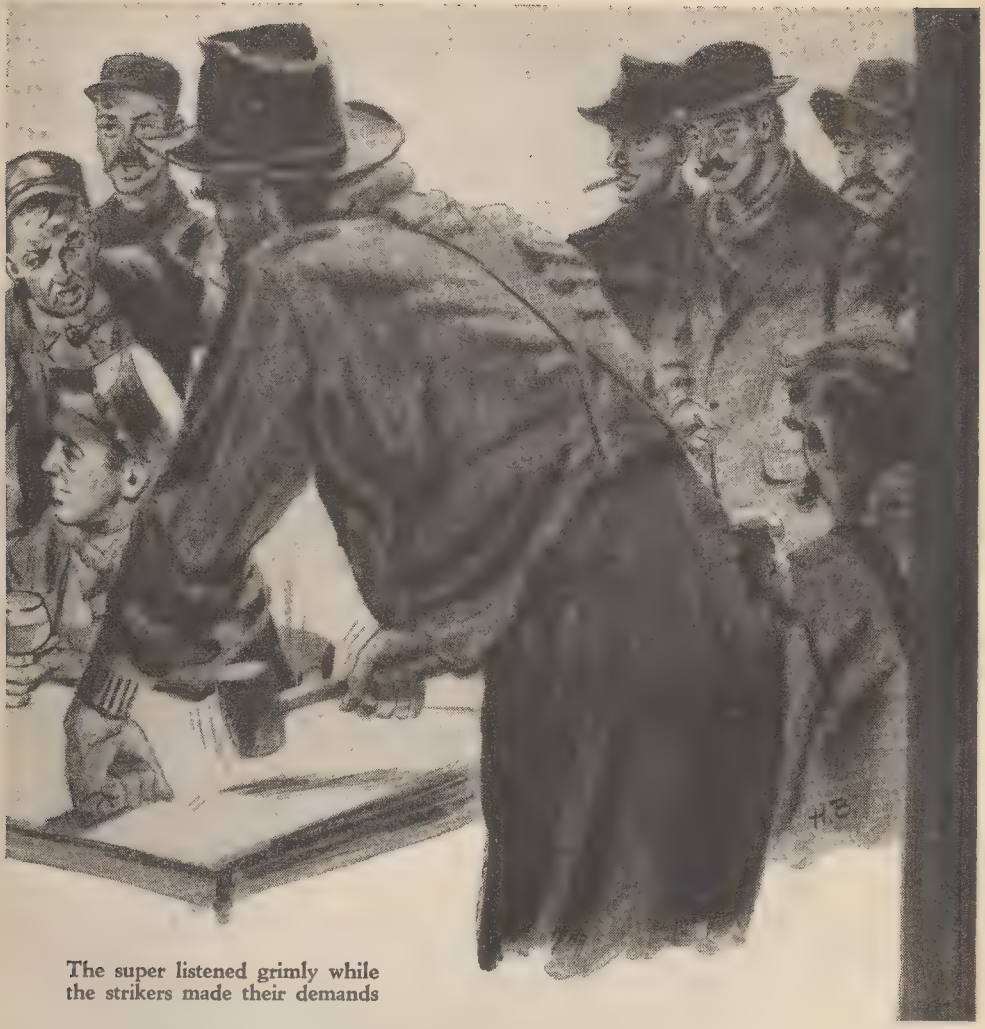
The Shannon Convention

SAMUEL DEL FRENCH

DURING THE passing years the railroads of the United States have known many strikes. Some of them have dragged on for a long time without tangible results—excepting, of course, the loss of wages, profits and the harrassment of the public. Some railroad strikes have been marked by sabotage, bloodshed and the misuse of law-enforcement agencies. In general, however, there have been fewer strikes against railroads than against any comparative heavy industry. The great railroad brotherhoods are strongly conservative.

The membership of a railroad union is quite capable of estimating the probable value of a ten-cent-per-hour raise against the certainty of a thousand-dollar loss in a year's earnings. It is the ability to translate that simple arithmetic into his union voting which keeps today's railroad man free of debt, riding in a modern automobile and his children in college. Being a bit on the old-fashioned side the railroad unions frown on the use of the so-called "quickie" strike, nor do they go for the "vacation-type" which John L. Lewis has patterned. The "sitdown" blossomed in the automotive industry, but it was old enough—in labor history—to be its so-called inventor's grandpa.

To get the full picture of the first rail-



The super listened grimly while the strikers made their demands

road sitdown strike, it is necessary to go back to 1888 or thereabouts, out on the Pacific Coast where the historic Oregon Railway & Navigation Company was still in operation. This strike occurred years before the Union Pacific absorbed the OR&N, long before the metropolis of Portland engulfed the City of Albina leaving no trace of its municipal glory. The oldtimers didn't call it a strike, however, for a strike is a leader-planned cessation of work by a group. This whiz-bang wasn't planned and the sole leader of its four unions wasn't elected until the OR&N was completely bare of freight crews. The spontaneous ignition of many red-hot tempers became known as the "Jack Shannon Convention." The convention feature developed from the fact that Jack Shannon was a popular—a very popular—Albina saloonkeeper.

Under ordinary circumstances Albina saloonkeepers did not have any connection whatsoever with the historic OR&N, except to cash most of the paychecks issued to employes. In order to understand how an Albina saloonkeeper, however popular, could win a place in history as a definite agency in an OR&N strike, one must know the other contributing causes. One major factor was Superintendent C. W. Johnson's desire for a vacation; an-

other potent factor was Acting Superintendent D. W. C. Perry's desire for executive fame—a desire that put more than a slow burn on the oldtimers.

Looking back upon those railroad unions of sixty-odd years ago, their lack of modern facilities appears appalling. But like grandmother and her hammock, they had their methods of getting what they wanted. The railroad unions were then sensitive to the wrongs inflicted upon the youngest brakie or the near-rube tallowpot. When irritated as a mass, they didn't cry on somebody's shoulder in the White House. Instead, they held a four-day convention and Jack Shannon, a saloonkeeper, became one of the men of the hour.

To be a popular saloonkeeper in early Albina required many facets of character and training. Nature endowed Jack with a slope-shouldered barrel chest, and with superb muscular development of the arms and legs. When necessary he could and did use all of the blarney of the Irish, proving that he could have been a diplomat; but he scorned that gift as a vice and gloried in exchanging punches and in seeing them traded by others. True, he was a saloonkeeper, but also a business man. He had to be alert to any profit—regular or dubious—which could be added to the Shannon bankroll.

Training for the career that brought him fame came in the form of being a freight brakeman on the OR&N in the days when hoboes were not treated as guests of the railroad. So efficient was Shannon's braking that he was made a conductor, and so many things did he conduct off duty that he became a saloonkeeper. The exact cause of his leaving the OR&N is shrouded in the cloak of the years. Perhaps it is well that it should be. He was not an ordinary saloonkeeper, you understand; he was an Albina saloonkeeper. In those days there was a difference.

THERE WAS considerable competition in the saloon business in early Albina. Curtin's, Shrantz's and the Tivoli held favorite locations and had their hosts of regular customers, but they were only a few of so many saloons that it was possible to reel out of the swinging doors of one into the swinging doors of another in one reel. The Tivoli had a particularly effective location due to the fact that it was the closest to the terminal yards. The cinders of the puffing switch engines grated under the feet of the thirsty ones who used the front entrance. A high board fence shielded the back entrance—an entrance which got a big play from those on duty who had qualms about the enforcement of bugaboo Rule G.

Albina of the late '80s needed saloons. The riotous little city was not connected to the effete Portland except by ferry and rowboat, but it was the terminus of a transcontinental railroad. Most docks and warehouses were on the Albina side of the Willamette, as were the stockyards and railroad shops, and many of the heavy industries. Cowboy, stevedore, sailor and railroad man fought, drank, danced and made merry in the saloons, dancehalls and in the "mansions rouge" that Albina offered in plentiful variety.

The innate ability of the Irish to select things beautiful kept the Shannon saloon above the Albina standard. His art gallery of unclothed, but discreetly-draped, females reflected the appreciation of a connoisseur in chaste beauty. True, the drinker might speculate on how the painted subject could look so pure and be made so nude. As the rosy aura deepened with each succeeding drink, it is possible that the drinkers acquired a greater clarity of vision and a widened appreciation of form and color. Especially, form.

Labels, too, ran true to name at Shannon's. Scotch came in thin-waisted bottles and the bird on the whiskey bottle was the well-known pest of the corn fields. Out of Jack's experience as an OR&N employe, and out of his much greater experience with other saloons, came a free lunch far surpassing all competition. No plebian wieners on listless crackers at Shannon's. There were thick cuts of roast beef (dawn-pink and of luscious texture) hiding under crunchy brown

slices of brown bread; ham wrapped in fresh lettuce as green as the shamrocks of Jack's favorite island. The wise, and the prudent, bought something Jack had for sale prior to lifting the cover on the free lunch. To put the phrase in the King's English of today, Jack could really lower the boom. Some of Portland's great bone specialists of later years served their internship piecing together the forms of the foolish who violated ethics by attempting to eat before buying.

Another cause for popularity was the roominess of the building housing the saloon. A large room upstairs was used as a meeting place for various lodges, while the back room downstairs was of sufficient size to hold prize fights for a select clientele.

It is highly probable that prize fighting, as such, was illegal by state law and by municipal ordinance. But in the late '80s there was no state police. True, there were sheriffs and district attorneys as there are now, but Albina's riotous affairs were, politically speaking, her own problem. Few law-enforcement heads wanted any part of Albina's variously mixed sublegal activity brought to their notice. The buck was passed to the Albina police.

These policemen were picked men. An accurate knowledge of every law was required, but the patrolman was also expected to have the ability to forget all of them on a moment's notice. The inbred hellishness of Albina's younger generation called for an officer with a warrior disposition that had a distinct blending of tact and diplomacy as part of it. Such an officer stayed on his beat and out of a hospital. There was another much-needed patrol requirement—that was the ability to see well and yet be able to go stone-blind instantly.

The possession of this latter qualification by Albina patrolmen enabled Jack Shannon to cash in on the roominess of his building. Perhaps he overreached himself by holding fights downstairs when there were lodge meetings upstairs, because a fight, planned or spontaneous, in early Albina would empty any lodge hall.

Again the real reason for the departure of the lodges has been hidden by time, but the various accoutrements were moved to other quarters, and the loft-like upstairs was empty of anything save the memories of drilling feet, the stumbling of blind-folded men and the swearing of sacred oaths by the joiners. Such was the situation when Superintendent Johnson decided he needed a vacation.

JOHNSON'S vacation was probably well-deserved. The operating forces of the OR&N had an *esprit de corps* that tested every rule in the book 24 hours every day. Then there was the cliff-draped roadbed through the Gorge of the Columbia, and a few wooden bridges—113 bridges, to be exact, between Albina and Wyeth, a distance of 57 miles.

Falling rock during the winter months and burning bridges during the summer time guaranteed activity—and broken slumber—to any operative head. There were no automobiles to delay trains by charging the crossings, but the laconic wire from the upper country: *"Hit sheep"* was not uncommon. Such a wire meant that the hogger and all hands except the flagman were busy picking a combination of wool, entrails and assorted cuts of raw mutton out of the eccentrics, siderods and miscellaneous running gear of the locomotive, while the passengers fumed over the delay. So superintendents often pictured themselves living their lives on railroads other than the OR&N.

For these and various other reasons, Superintendent Johnson decided to go to California for a rest. That in itself was an unwise choice because then, even as now, the natives of that state wouldn't let a visitor rest. But Johnson chanced it, and Acting Superintendent D. W. C. Perry took over the official reins.

The recreation-bound Johnson had just entered the Land of the Native Son when Acting Superintendent D. W. C. Perry put forth his first executive order. It was an order such as lesser officials dream of issuing during the absence of their superiors. Not only did the order double the

length of all divisions, but its scope eliminated about one-third of the operating personnel. The remaining two-thirds were to work under a lower pay rate—25 percent lower—which was quite a chop for one stroke. Fully believing that this masterpiece of executive ability would establish his railroading genius and rate him a sumptuous office in a brick-walled canyon in Omaha, D. W. C. Perry waited calmly for the men's reaction.

He got it. Freight trains moved as usual until the full import of the order dawned on the dazed crews. Trains moved unusually after that. They were unusual trains: engines towing trains of cabooses, as the freight crews of the Mountain Division above Umatilla and the crews of the Washington Division east of Umatilla, as well as all the operating forces between Umatilla and Albina, headed in one-way traffic toward Albina.

Within 36 hours of the issuance of the Perry order the OR&N was bare of freight crews. Albina was crowded with trainmen who were enjoying the first real get-together they had ever had. Men who knew each other only by their scrawled signatures on grimy train registers actually met face to face. Most of these men drank. Their presence threw tumultuous Albina into high gear as their union leaders quickly organized for battle with D. W. C. Perry.

Now came Jack Shannon's master stroke. He offered the use, gratis, of the ex-lodge rooms as headquarters for the strike committee. The ex-lodge rooms were ideal for the purposes of the committee. There were a couple of rooms off the main lodge hall that served as the actual meeting place of the union heads, while the main lodge room became a favored "cheering section" for those who had time on their hands. Jack served many customers during the first 24 hours, and there were many calls from upstairs.

Curiously, these upstairs calls were invariably followed by a total disappearance of all of the free lunch downstairs. Jack's Irish ingenuity rose to the occasion. During a slight falling off in trade in the wee small hours of the morning, carpenters rigged a dumb-waiterish sort of a chute to the cheering section. After that, deliveries could be made direct—and without losing sight of the free-lunch tables.

A cowbell signal system made known the upstairs customer's wants. One ring meant one bottle of whiskey; two rings meant two bottles. Toward the end of the second day some of the more exacting imbibers devised refinements in the signal system. Scotch was ordered by a full-length pull on the cowbell followed by a tiny tug that barely moved the clapper. Reversed, this signal brought "Square-faced" gin.

STRIKE organization moved speedily. Engineer Bob Hunter was chosen to represent all the unions. Committees were appointed to take care of the various situations that were arising. Somehow, lacking a high-powered leader, these union men realized that striking put them in the public eye. Being old-fashioned they wanted the public's impression to be a favorable one.

A "retirement committee" was detailed to the job of placing all overexcited railroad men in bed. Once a man reached the stage where he became garrulously loquacious or obnoxiously pugnacious, he was ushered to a well-guarded caboose and made to stay there until he sobered up. A large law-and-order committee of picked fighting men served 24 hours a day preventing lawlessness and rowdyism.

Extra police were detailed to Albina, but they were not needed. Trouble might have broken out, due to the temptation that the sight of these glistening stars on untried officers had on Albina's younger generation, but so well chosen was the law-and-order committee that these extra police were as safe on the streets of Albina was if they were in headquarters. No half-bricks fell harassingly out of upper windows as they strolled their beats; no twanging sling shots propelled stinging pellets toward police posteriors from Albinian alleys. Nor was there the usual scurrying patter of feet echoing the squish

of a helmet-denting tomato. None of these usual things happened to Albina officers.

It must have been a strange sight for the casual Albina resident to find his downtown streets bare of drunks; bare of struggling groups of fighting men, with uniformed policemen standing unmolested in plain sight. OR&W union men were on strike and, like the Marines, they had the situation well in hand.

When Acting Superintendent D. W. C. Perry discovered that he had no freight crews anywhere on his lines, his first act was to send for the California-bound Johnson. That was smart—the first good sense he had displayed. Then he sent for the strike committee. This proved not so smart. Somehow these supposedly dumb railroad men—who lacked an arm-waving, windbag leader—realized that D. W. C. Perry should come to them.

They notified the acting superintendent that the fare on the ferry between Albina and Portland was fifteen cents, and that it would be much cheaper for the acting superintendent to come to the committee than it would be for the committee to go to the acting superintendent. Their notification closed with an invitation for him to visit their headquarters.

IT CANNOT be imagined that Acting Superintendent D. W. C. Perry came to Jack Shannon's saloon willingly or in a blithe spirit, but come he did. He listened in silence as Spokesman Bob Hunter outlined the feeling of the men. The request was a simple one. The divisions to remain unchanged, the operating personnel likewise, but the pay, instead of being cut 25 percent, was to be raised.

Whatever the acting superintendent's feelings were, when he left the rooms above Shannon's, they must have included some degree of respect for the organization that had matched his strategy in the short battle. The prompt movement of the entire group to Albina spoke volumes for its cohesive belligerency, while its peaceful conduct in Albina entitled the men to public respect.

It took two days to get Johnson back. Bulletins were posted in the Shannon saloon and on downtown street corners advising all concerned of the progress of his special train. His varnished car was topping the high iron of the Siskiyous; he had breakfast in the Southern Pacific restaurant in Ashland. The super's special arrived Medford 10:02 a.m. departed 10:11 a.m. "The Southern Pacific is deadheading its fastest locomotive to Roseburg to expedite Special northbound. Right of way over all trains—all speed restrictions suspended." Crowds of happy, waiting men read the posted reports.

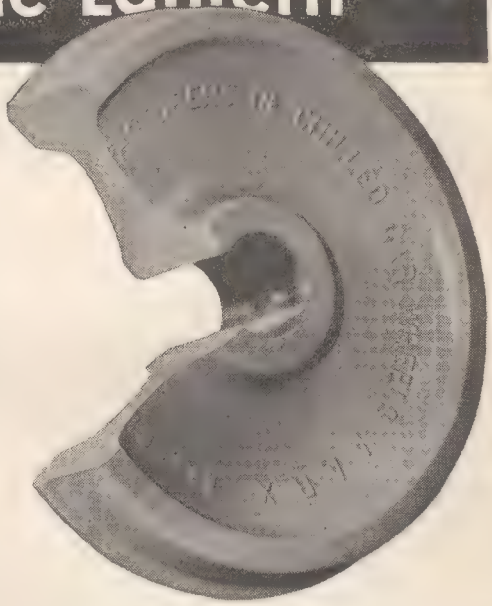
Those two days of waiting became a dating period for OR&N oldtimers. A boomer who had settled down to grow some seniority whiskers might observe, "Yeah, I hired out here about three months before the Shannon Convention," or "Hotbox Harringan married the hasher at Umatilla 'bout six weeks after the Shannon Convention." The mellow spirit of the convention further cemented the men's respect for each other.

During those two days, a great deal of railroading was done via the spoken word. Hoboes were unloaded—with gestures—including the final swish of the foot. Fast runs were made down the ultra-scenic Gorge of the Columbia. There were thrilling tales of cliff-dropped rocks bouncing off speeding trains to hold listeners agog. In veracity it must be admitted that most of the listeners were slightly more than agog before they started to listen. Boxcars were shuffled in spectactular fashion, and stockcars were hi-daddied into place alongside the manure-lined chutes by benefit of brake club only. All of this mouth-railroading took place on the street corners of tough little Albina while real railroad men waited for a real railroad man.

Superintendent Johnson granted the men's requests—including the raise in pay—immediately. Engineer Hunter stressed the fact that a pay raise was long overdue. Eggs were up to 25 cents a dozen and flour had reached a dollar a hundred pounds. There was agreement and with the handshake the Shannon Convention passed into history.

Light of the Lantern

CAST IRON WHEELS



THE ASSOCIATION OF AMERICAN RAILROADS has set up high standards for the manufacture of cast-iron car wheels. The purpose is two-fold; first to create maximum safety and, second, to insure long wear at minimum cost. The finished product must meet the most rigid tests, for heavy loading, high speeds and modern braking call for a rugged product. The manufacture of such wheels involves an elaborate and well-controlled process of casting.

To undersand the whys and wherefors of this process a slight knowledge of metallurgy is needed. We should know what makes iron hard and tough, or mild and somewhat elastic. Broadly speaking, ordinary iron can be classified in three divisions, solely by its carbon content. Ordinary wrought iron contains .30 percent carbon; steel contains .30 to 2.20 percent, and any proportion between the latter and 4 per cent falls into the cast-iron category.

In steel, due to the nature of the refining process, carbon combines with the iron, chemically, to produce a tough, fine-grained texture which is subject to tempering, or hardening, when heated to various temperatures and then suddenly chilled. In the case of wrought iron or cast iron, sudden chilling also makes the metal hard and somewhat brittle.

In cast iron, the large amount of carbon is more or less free. That is to say, it does not actually combine with the iron as in the case of steel but remains in individual particles which can be readily noted with the naked eye. When the metal is heated and allowed to cool slowly, it takes on a gray color and though tough it is comparatively soft. But if cooled suddenly the carbon becomes fine grained, getting lighter in color and exceptionally hard. In the cast-iron wheel both kinds of carbon distribution are demanded to produce particular results.

Long life, of course, calls for a hard surface at the tread, where the wheel comes in contact with the rail and brake shoe. Here, wear must be slow if the wheel is to pile up mileage. On the other hand, the center of the wheel, where the axle is press fitted to a solid bond, must be soft and somewhat elastic in order to hold the fit without cracking open.

TO PRODUCE both conditions in one casting is not as difficult an operation as might be supposed. The customary sand mold is used; into it is pressed a wooden form or pattern of the wheel itself. After making the necessary impression, the form is carefully removed and the cavity is then filled with molten metal. If the entire surface of the mold was fashioned of sand, the metal in contact with it would react to an almost even rate of temperature reduction. However, by substituting a band of metal called a "chiller"

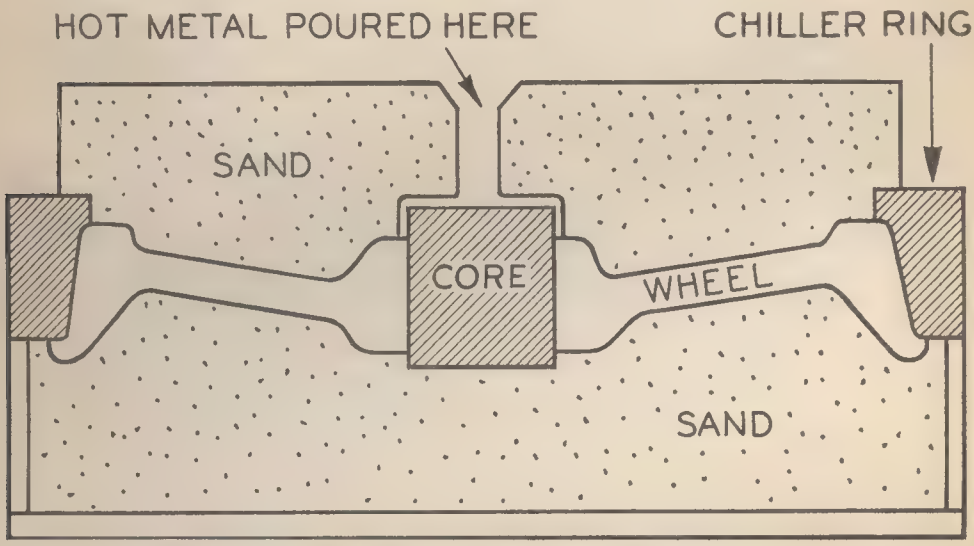
for the sand in contact with the wheel tread, a rapid cooling process takes place in this one area, causing the carbon in the iron to create a surface which is so hard that it cannot be touched with a cutting tool. Since the rest of the wheel cools more slowly, it remains softer in composition, which is exactly the condition desired.

But there still remains the problem of preventing fractures in that zone between the two metal structures. After the wheels are cast and the molten metal sets, the wheels are immediately removed from the molds and placed in "annealing pits." These are nothing more than long cylinders or tanks with close-fitting covers, into which about two dozen wheels can be lowered and kept hot for several days. The slow-cooling tends to blend the metals, relieving them of any stresses that might otherwise be set up. Even after they are removed from the pits to an open room care must be taken that cool drafts of air do not strike them until they have reached the temperature of the surrounding atmosphere. If each step is taken as prescribed, the contour of the wheel will be true and there will be no warping of the sides.

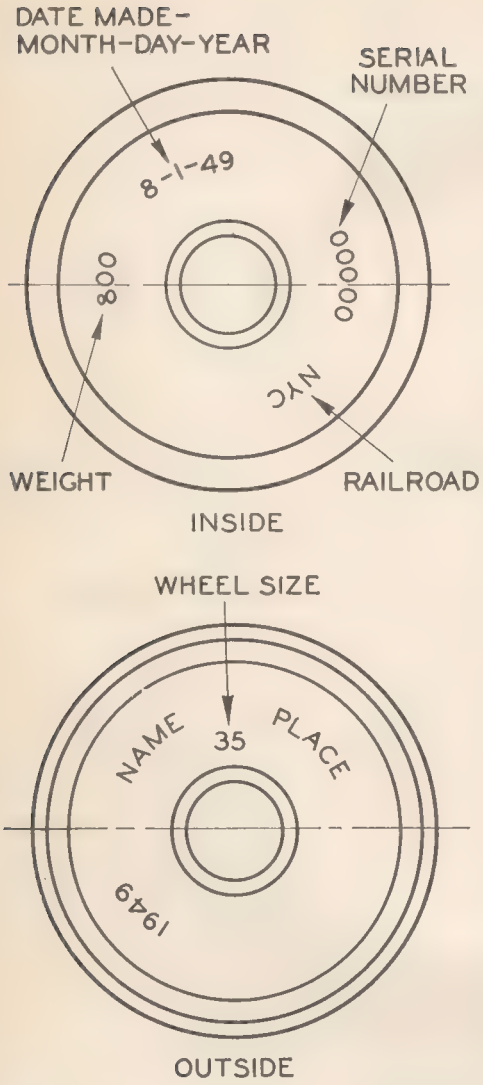
It is a methodical business, right from the start. The proper combination of pigs and scrap is placed in the furnace and heated to at least 2400 degrees Fahrenheit. The regulations are to maintain this temperature at all times during the pouring. When the molding is once started there can be no interruption in the flow. It must be done as fast and evenly as possible; as a matter of fact the time of pouring is precisely specified. Wheels of 650 pounds' weight must be formed in 11 seconds; 15 seconds is allowed for those weighing 850 pounds.

After pouring, the wheels are removed from the molds as quickly as setting permits for it is an advantage to retain a high degree of heat in the annealing pits. The interval between pouring and drawing from the molds must not exceed 45 minutes for the small wheel or one hour for the larger one.

As the casting comes out of the sand much of the soft loam adheres to the sides. This must be removed in less than 4 minutes and if, at the expiration of that time, the temperature of the wheel has dropped to less than 1000 degrees, it must be reheated. Cooling in the annealing pit requires three days.



Cross-sectional view of mold. Band of metal chills molten iron forming tread, producing exceptionally tough texture which must be at least one-half inch deep



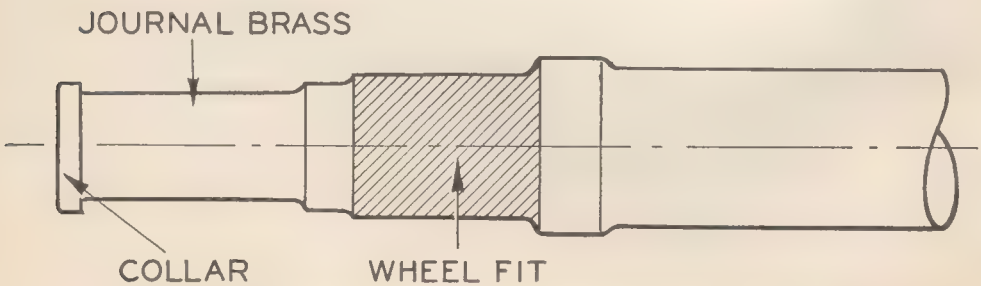
Information of value in the event of a wheel failure is embossed on both sides of the disc

CAR WHEELS are used in Interchange Service, which means that they may be applied to the cars of any railroad at any time, in any one of thousands of shops throughout the country. For this reason a complete and permanent record must be kept of every wheel. Pertinent data including the name of the railroad applying the wheel, date and place of casting, serial number, name of manufacturer, and weight and diameter are carried on its outer and inner surface. With this information available all other data can be obtained in case of a failure or wreck.

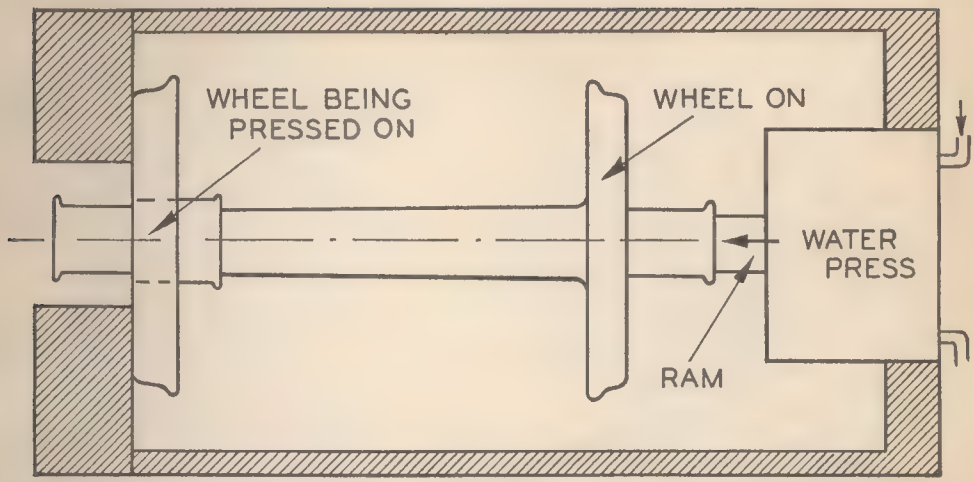
As important as the casting process itself is the boring of the wheel. When the mold is prepared for pouring, a core is set into the sand where it occupies the approximate position of the press-fitted axle. This core is fashioned of sand mixed with a heavy liquid which forms a binder when the mass is formed and baked. The result is that the casting is not entirely solid; thus less metal is used and the process of boring to exact size is simplified. However it still remains an exacting operation for if the hole is not perfectly perpendicular to the plane of the wheel the latter will not run true at the tread. The bore must also be concentric with the tread, otherwise the out-or-round movement will cause a severe up-and-down movement at speed.

Before the axle is inserted, it, too, must be machined with the greatest of care. That portion at the fit should be perfectly round and smooth, and without the slightest taper.

A wheel press is used to mount the discs on the axle—one at a time. The



Area of wheel fit must be machined to mirror smoothness, and without taper



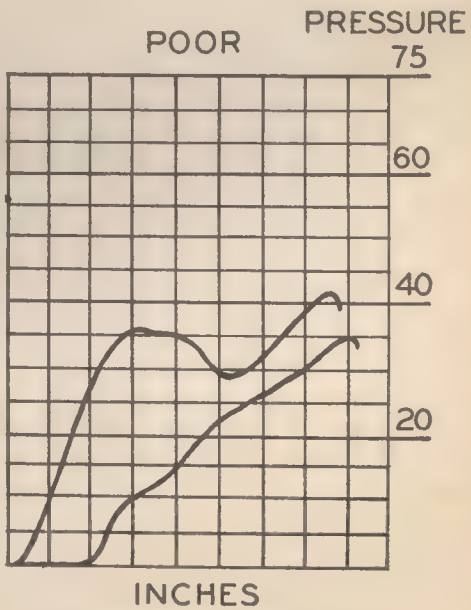
Hydraulic press is used to mount the wheels slowly and with evenly rising pressure

press consists of a frame having a ram, or piston, at one end, which is forced outward by the pressure of water or some other liquid. The movement of the ram is very slow, for there must be no galling of the metals. A mixture of white lead and linseed oil is applied to the axle during the application to create the smoothest possible action.

As the wheels are mounted, a graph is made to be kept with other records. On the average 5- by 9-inch journal, the mounting pressure must not be less than 40 tons or more than 65. If less pressure is applied the wheel is liable to work loose in service. Excessive pressure, on the other hand, may cause the wheel to crack from the fit outward, creating a condition equally as bad.

Our facsimile graph at right shows poor fit indications. As the wheel goes on for the first inch the pressure should start to rise and continue to do so throughout the fitting. If it should fall back at any time, or not climb to the proper tonnage, the wheel must be pressed off and another of smaller bore put on.

Many of the heavier coal cars use a wrought iron or steel wheel in place of the cast-iron type. These are better suited to tough service and are, of course, used exclusively on passenger cars. But such wheels are costly and when we realize that approximately 3 million car wheels are required annually the savings resulting from the use of the cast iron product are stupendous. Too, there are relatively few plants capable of producing wrought iron and steel wheels, while foundries in virtually every state of the Union turn out the cheaper product. Thus shipping charges are at a minimum; replacements may be had on short notice; and old, used wheels may be returned to foundries inexpensively, for reclaim value.



Pressure chart of a poor wheel fit

INFORMATION BOOTH

East month the Lantern Department prints answers to rail questions of general interest, submitted by our readers. We do not send replies by mail.

Q. *What railroad has the longest continuous double-track CTC installation?*

A. Longest installation of this type went into operation last summer on the Chicago & Northwestern, on the 75-mile stretch between West Chicago and Nelson, Ill., where one line branches off to Peoria and Benld and the main line continues on to Clinton and Omaha. Under construction for more than two years and costing more than $1.5 million, the system is saving many hours of freight and passenger traffic time. A total of 86 road miles were included in the project which involved 169 miles of main track, including eleven miles of a separate single-track cutoff. Although all of the line between West Chicago and Nelson is double track, some sections have three or more. Sixteen new CTC-controlled interlockings were installed, including 63 power switches and 119 controlled signals. Crossover locations are spaced an average of 6.4 miles apart. The installation also included the placing of electric locks on 83 hand-operated switches. These power switches and their governing signals are all controlled by the dispatcher at Chicago.

In the morning when heaviest traffic is east bound toward Chicago, faster trains can be crossed over to the other track to run around slower trains, or slower trains can be crossed over to permit faster ones to pass. The trains are kept moving at a normal pace in either case, rather than being held on sidings. The same situation prevails in the evening when the traffic is predominantly westbound.

Swing span of double-tracked Dumbarton Bridge; a 7842-foot structure which has carried the bulk of Espee's San Francisco freight traffic across the Bay since 1910

Q. *Last fall the Baltimore & Ohio purchased two Budd RDC-1 cars. Can you tell me where they are being operated?*

A. These cars are being operated as a unit in commuter service between Brunswick, Md. and Washington, D.C., a distance of 49 miles; and between Washing-

ton and Baltimore, 37 miles. B&O was the sixth railroad to purchase the RDC-1.

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Q. *I understand that the Pennsy has combined some more of its operating divisions. I would like to know the details.*

A. PRR announced last October 27th that it would eliminate three of its grand divisions and consolidate two of the larger divisions, Renovo and Buffalo, on November 1st. A new northern division was thus created, with headquarters in Buffalo. With discontinuance of the Toledo division, the line from Toledo Junction, located just west of Mansfield, Ohio, to Toledo and Detroit becomes part of the eastern division with headquarters at Pittsburgh. Service in northwestern Pennsylvania is not materially affected by the change, according to a company spokesman.

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Q. *Describe Jackson multiple tamper now used by the Maine Central.*

A. Purchased by the Pine Tree Route last summer, this piece of equipment tamps an entire crosstie in place in one operation, regardless of whether the ballast is composed of gravel, cinders or rock. The machine, complete with cab for its crew of two, consists of twelve heavy duty steel blades which are electrically vibrated. The tamper blades have hydraulically operated raising and lowering arms which are easily adjustable for all conditions of lift and kinds of ballast. One operator actuates the tampers with fingertip controls. It may be moved easily from tie to tie with a large gear-reduction handwheel that spots the tampers at exactly the right location. Mounted on a self-propelled 4-wheel carriage, it is capable of speeds up to twenty miles an hour.

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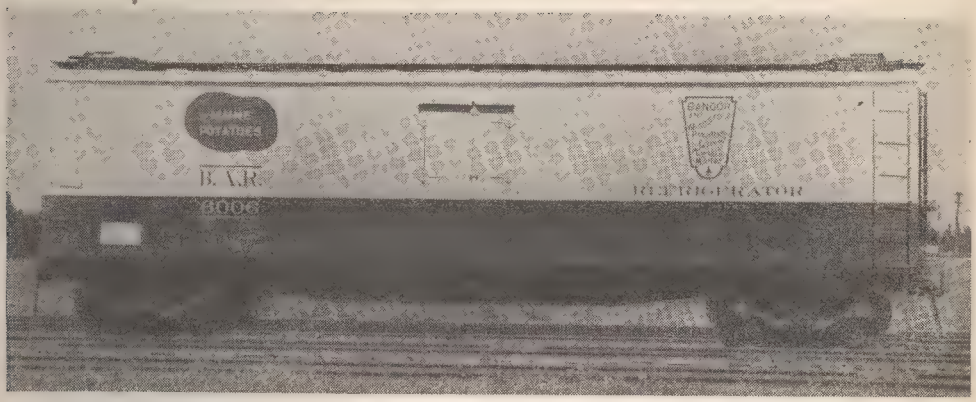
Q. *Is there any publication that covers subway and elevated lines in all cities of the world? Please advise where I can secure such a book, and the price.*

Copy of 1848 daguerreotype by W. S. Porter, pictures Cincinnati riverfront and, by a happy coincidence, the terminal of the Little Miami Rail Road, first line to operate out of the Queen City

Photo from Joseph E. Siegel, 7000 Bramble Ave., Cincinnati 27, O.



Keep an eye peeled for the swank 6000s, latest in spud cars on the Bangor & Aroostook. Doing double duty as winter potato carrier and summer reefer they are part of $3,600,000 freight car order which gives the line an impressive fleet of perishable haulers. In addition to 500 units like the one pictured, road has 300 new combination paper and insulated heater cars

A. *All About Subways,* by Groff Conklin, published by Julian Messner, Inc., 8 West Fortieth Street, New York 18, N. Y., in 1938 and selling for $2.50, is the best volume that we know. It is generously illustrated and has some material on elevated lines.

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Q. *Would you give us an account of the Tay Bridge disaster in Scotland?*

A. From our British friend, *The Railway Magazine,* we glean the following information: "The original bridge over the Tay at Dundee, which collapsed on the evening of Sunday, December 28, 1879, during a gale of exceptional severity, was an iron girder structure, supported partly on brick piers, and partly on groups of cast-iron columns bolted and braced together. It was one mile, 1705 yards long, and carried a single track, with check rails throughout. The bridge consisted of 86 spans, varying from 29 to 245 feet in length. There were eleven spans of 245 feet and two of 227 feet, formed of wrought-iron lattice girders. The whole of these thirteen long spans collapsed while a train was passing. No satisfactory explanation of the disaster ever was forthcoming, but probably the bridge collapsed under the pressure of the wind when the flat surface presented to the gale was increased by the presence of the train. The engine, No. 224, a Wheatley 4-4-0, built in 1871, was recovered from the bed of the river in April, 1880. It had suffered comparatively little damage, and was hauled on its own wheels to Cowlairs Works for repairs. For many years after the disaster, it worked regularly between Glasgow and Perth, and subsequently between Riccarton Junction and Hexham. It was withdrawn from service in 1919.

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Q. *Explain the device which railroadmen call the "mechanical stool pigeon."*

A. This gismo is a little cylinder with a recording tape that shows how fast an engine moved at each point on the line, whether it was working or coasting, when and where the brakes were applied. Another similar device, referred to as a "bug,", contains a recording tape that measures the jolts a car receives in its travels. When there is an excessive amount of breakage in transit on items such as beer bottles, the originating road attaches a bug to the car. Like a seismograph, used in recording earthquake tre-

mors, the gadget's styles makes jiggly lines on a recording tape, showing where the most severe jolts occur. Thus, rough handling may be traced to a certain yard through which the shipment of bottles passed on its way from the brewery to the consignee. The freight agent at the destination point is the only one who can open the bug.

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Q. *What are the advantages of microwave communication, as far as the railroads are concerned?*

A. Microwave radio costs less to maintain and provides a better continuity of service than open wires. Mr. C. O. Ellis, of Chicago, superintendent of communications of the Rock Island Lines, stated in a paper presented at the 27th annual meeting of the communications section of the AAR at the French Lick Springs Hotel that the electronic system, even at this time, will prove itself on railroads where heavy pole lines are maintained or excessive maintenance costs result from wind, sleet and flood damage. Describing the Rock Island's microwave installation, which formed the basis for his paper, Mr. Ellis pointed out that the location selected for that railroad's experimental installation has an altitude ranging from 2272 to 3689 feet, and is situated in an area that appeared to offer more adverse conditions than any other section. Mr. Ellis expressed the belief that the cost of microwave equipment will decrease as the demand grows.

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Q. *Please compare specifications of PRR engine 5399 and Southern engine 1380, both Pacific type locomotives.*

A. Specifications of these engines are as follows:

Road and No.	Class	Cyls.	Drivers	Pressure	Weight of Engine	Tractive Force	Builder	Date
PRR 5399	K-5	27x30	80	250	318,700	64,675	Juniata	1927
SOU 1380	Ps4	27x28	73	200	300,000	45,000	Schen.	1923

Q. *I read recently that the Chesapeake & Ohio has replaced all its old-style, open-section Pullman sleepers. Give particulars.*

A. Thanks to Pullman-Standard's delivery of the last of an order of 132 new cars, including coaches and lounges as well as sleepers, there are no longer any contortionist dressing acts behind green curtains in the sleeping cars of Chessie's railroad. C&O is believed to be the first railroad in the country, except for two roads with more limited passenger service, the Nickel Plate and the Kansas City Southern, to banish the open-section sleepers from its regular sleeping car lines.

Q. *Print an account of the Pennsy's tunnel and track improvement project along its main line between Pittsburgh and Columbus, O.*

A. This multi-million dollar project, completed last November, eliminates four restricting tunnels and straightens a number of curves on the road's main Panhandle route to the South, Southwest and West. Speeding the movement of freight to and from the important Cincinnati, Louisville and St. Louis gateways, it also quickens and improves the Pennsy's online freight service between these cities, intermediate points and the Steel City, now using the tunnels or detouring around them. The larger type boxcars, and unusually large shipments on flat and in open-top cars, which previously moved over lengthy detours because of the old tunnels, now move without delay on the direct short line.

In accomplishing this extensive line improvement, underway since June 1949, the PRR has moved the equivalent of

John Gibb Smith Jr.

Altoona-built, in the early 1900s, PRR's 1178 had a total weight of 96 tons

185,000 carloads of earth and rock, an undertaking that was not economically feasible until after World War II, when new earth-moving machinery became available. Four tunnels were by-passed by construction of new line.

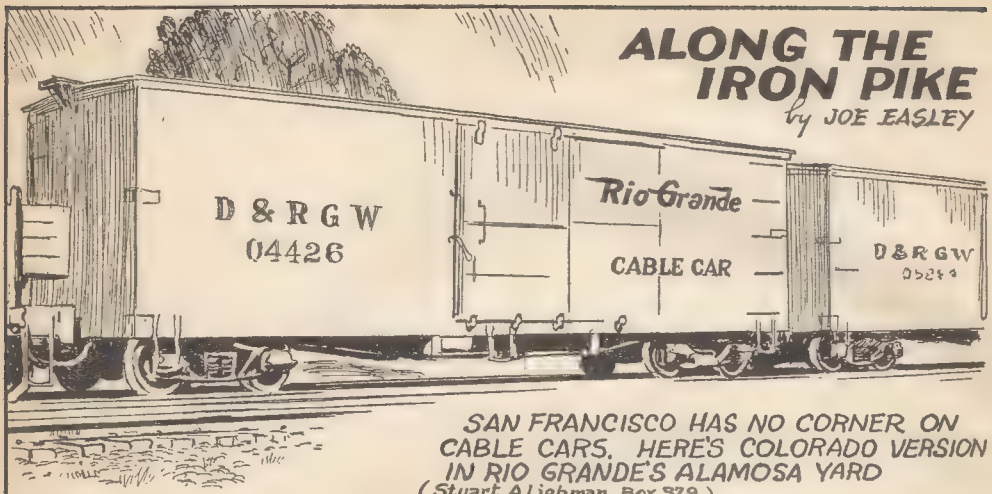
● ● ●

Robert C. Nicholls, from Ray Hicks

Red Wing (Minn.) blackbird. Milwaukee switcher 1463 makes no migratory flights, but her 51-inch wheels have spun off plenty of mileage since 1910

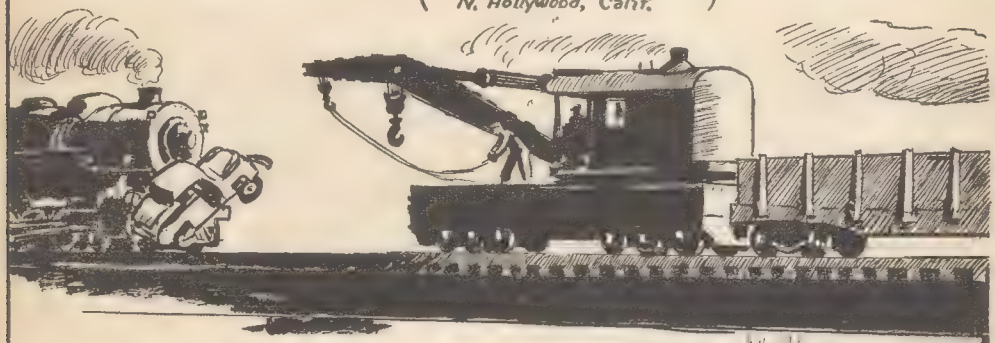
ALONG THE IRON PIKE

by JOE EASLEY



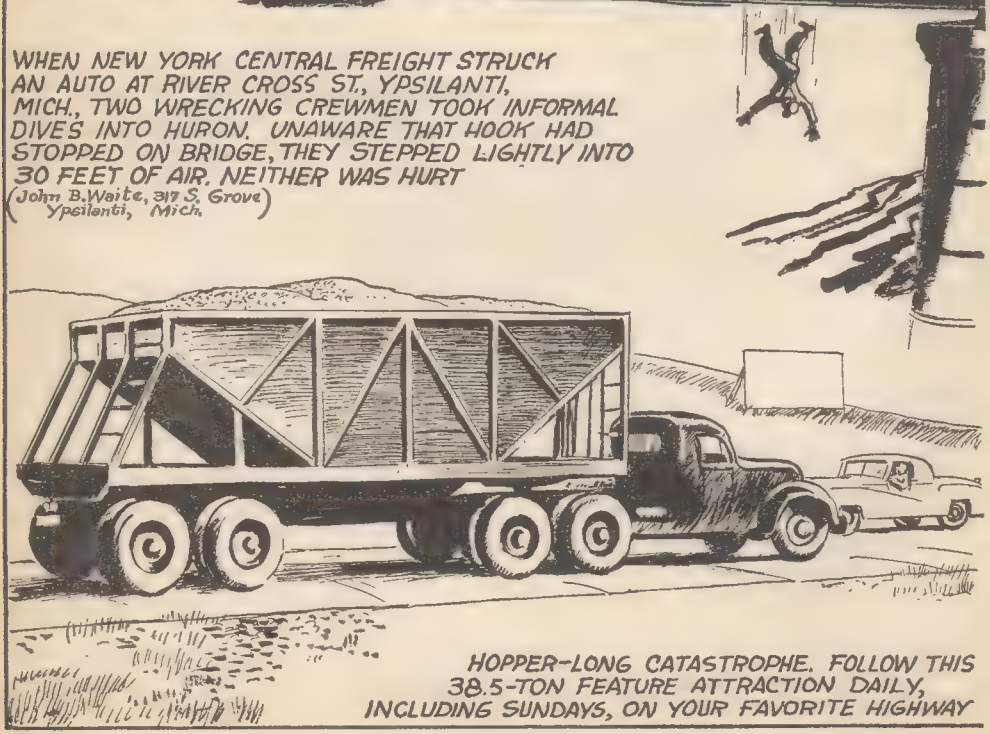
SAN FRANCISCO HAS NO CORNER ON CABLE CARS. HERE'S COLORADO VERSION IN RIO GRANDE'S ALAMOSA YARD

(Stuart A. Liebman, Box 379, N. Hollywood, Calif.)



WHEN NEW YORK CENTRAL FREIGHT STRUCK AN AUTO AT RIVER CROSS ST., YPSILANTI, MICH., TWO WRECKING CREWMEN TOOK INFORMAL DIVES INTO HURON. UNAWARE THAT HOOK HAD STOPPED ON BRIDGE, THEY STEPPED LIGHTLY INTO 30 FEET OF AIR. NEITHER WAS HURT

(John B. Waite, 317 S. Grove, Ypsilanti, Mich.)



HOPPER-LONG CATASTROPHE. FOLLOW THIS 38.5-TON FEATURE ATTRACTION DAILY, INCLUDING SUNDAYS, ON YOUR FAVORITE HIGHWAY

MONUMENT TO A MYTH. GENERAL MOTORS' C.R. OSBORN TAKES A BOW FOR ORIGINATING IDEA OF VISTA-DOME CARS WHILE TRAVELING THROUGH SCENIC GLENWOOD CANYON. HOW ABOUT CP'S DOUBLE-CUPOLA OBSERVATION CAR, INTRODUCED AROUND 1910? (Drawn from Rio Grande News Photo)

CABOOSE KEEPSAKE. REGISTERED PHARMACIST A.O. GORDON, OF MERNA, NEBR. RECALLS THE DAYS WHEN HE WAS A BURLINGTON SKIPPER ABOARD THE "THREE ACES" HACK. RECENTLY HE BOUGHT IT FROM THE ROAD FOR USE AS A DEN

One of the few locomotive oddities which made the grade, in fact as well as theory, ***Old Maud*** was the pride of the B&O in 1904. Twice as powerful as the ***Consolidations*** formerly used on Sand Patch, she handled 3200 tons with helper assistance only on the heaviest section of the hill

THE STEAM DYNASTY

By Paul T. Warner

LAST MONTH *we considered highlights in locomotive development from 1831 through 1900. Broadly speaking, the machine had come of age. Its elements had assumed their present day relationship and, with the exception of two or three notable deviations from conventional practice, 20th Century designs have featured refinements of construction, supplementary devices and ever-greater weight and power, rather than radically new assemblies.*

1901-1910

IN 1901 The Baldwin Locomotive Works built narrow-gage *Pacific*-type locomotives for the Government Railways of New Zealand, and a year or so later they began to appear on domestic roads,

Rail Photo Service, 93 Massachusetts Ave., Boston 15

the first examples being constructed by the American Locomotive Co. for the Missouri Pacific and the Chespeake & Ohio. But probably the most notable event during this period was the introduction of the *Mallet* articulated compound, first built by the American Locomotive Co., in 1904, for the Baltimore & Ohio Railroad. The special features of this type are so well known that they need not be described here; suffice it to say that the first B&O *Mallet* had the 0-6-6-0 wheel arrangement, and was the heaviest and most powerful locomotive in service at the time of its construction. The first road in this country to use the *Mallet* on an extended scale was the Great Northern, which purchased a group of heavy 2-6-6-2 type locomotives from the Baldwin Locomotive Works in 1906. Another type to come into use during the period was the *Santa Fe* (2-10-2), so named because the first locomotives with that wheel arrangement were built by Baldwin for the Atchison, Topeka & Santa Fe Railway.

The locomotive had now reached the point in its development where, in order to operate it efficiently and work it at full capacity, it was imperative that the engine crew be given the help of mechanical devices. A beginning was made

Great Northern was first to utilize the *Mallet* design for sustained running under heavy load. Santa Fe introduced the 2-10-2; and C&O, the *Mountain* type. Baldwin outdid itself in the design of a 2-8-8-8-4 which couldn't make steam as fast as six cylinders consumed it

in the use of power reverse gears and mechanical stokers; they were at first rather crude and unreliable, but improvement in their design soon followed. Another device that was coming into extensive use by the close of the decade, was the superheater. The advantages of using superheated steam had long been known, but the problem of designing a superheater that would stand upon a locomotive, and of lubricating cylinders and valves under the high temperatures involved, was not easy of solution. The German engineer, Wilhelm Schmidt, did pioneer work in developing a superheater for locomotives, and his general design was soon being used in this country to a greater extent than any other. Early designs of superheaters, intended to give only a moderate increase in steam temperature, were soon abandoned, as the resulting economy was practically nil. As soon as the oil companies succeeded in producing lubricants that would stand up under high temperatures, the success of the Schmidt type of smoke-tube superheater was established.

1911-1920

PRACTICALLY all the heavy power built during this period was designed to use superheated steam, and a large percentage of the locomotives were stoker-fired. Several designs of under-feed stokers were tried; but while they did an excellent job of firing when they worked, and burned high-volatile coal with comparatively little smoke, they were difficult to maintain, and eventually they gave way to the over-feed or scatter type, several of which came into successful use. Steam jets proved the most reliable means of distributing the fuel; mechanically-operated shovels or paddles were used to a limited extent, but did not meet the requirements of railroad service as successfully as the jets.

The most important new type of locomotive to be placed in service during this period was the *Mountain* (4-8-2), first built by the American Locomotive Company for the Chesapeake & Ohio Railway in 1912, and used in through passenger service over the heavy grades in the Allegheny Mountains. It proved an immediate success, and was soon adopted by other roads. An interesting development in articulated power appeared on the Erie and the Virginian, in the triple locomotive—a *Mallet* with a steam-driven tender section. These locomotives were built under patents held by The Baldwin Locomotive Works, and were hailed as a great advance in locomotive development. But they were short-lived, as it was impossible to apply a boiler of the required steaming capacity. As a further development a *Quadruplex* was proposed, and was covered by a Baldwin patent. It is hardly necessary to state, however, that such a machine was never actually built.

During the First World War, while the railroads were being operated by the United States Government, a large number of "Standard Locomotives" were built to the orders of the Railroad Administration. There were prepared two designs each of switchers, *Pacifics, Mountains, Mikados, Santa Fes* and *Mallets*. The plan was to build such locomotives in large numbers and distribute them to any roads requiring power. The designs were well worked out and the locomotives proved generally satisfactory, but after the roads were returned to their former owners, each resumed the former practice of ordering motive power designed according to its own ideas.

1921-1930

CONSPICUOUS during this decade was the rapidly increasing use of four-wheeled trailing trucks in such types as the *Hudson* (4-6-4) *Berkshire* (2-8-4), *Northern* (4-8-4), and *Texas* (2-10-4). The four-wheeled trailing truck permitted the firebox dimensions to be increased, thus keeping the rate of combustion per square foot of grate per hour within reasonable limits, and without carrying an excessive trailing axle load. The out-

standing performance of such locomotives as the New York Central's 4-6-4s, the Santa Fe's 4-8-4s and the Texas & Pacific's 2-10-4s, fully proved the wisdom of this development.

In the realm of locomotive details, the rapid increase in the use of feed-water heaters—an old device that had been tried spasmodically for many years—should be noted. Another interesting development was the so-called simple *Mallet*—an articulated locomotive using high-pressure steam in all four cylinders. At least two such locomotives had been tried by the Pennsylvania during the previous decade, and they now were practically supplanting the compound *Mallets* in new construction; while many of the old compounds were being changed to "simples." Increased speed capacity, and a reduction in the cost of maintenance, were important factors in this connection.

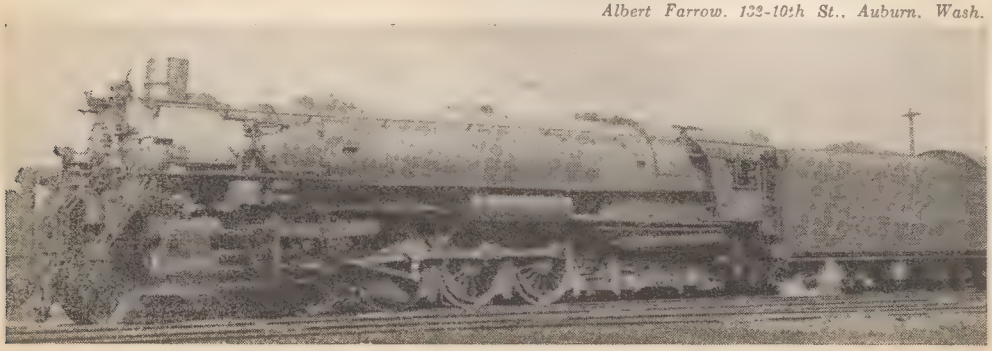
A number of individual locomotives designed to carry unusually high steam pressure (350 pounds or more) were built during this period. Notable were the *Consolidation* (2-8-0) type, two-cylinder compounds on the Delaware & Hudson, and Baldwin engine No. 60,000—a 4-10-2 type, three-cylinder compound carrying 350 pounds pressure, and having a water-tube firebox from which staybolts were entirely eliminated. While it cannot be said that any of these locomotives exerted very much influence on future power development, they are of interest as showing what efforts were being made to increase the overall efficiency of steam power.

Timken introduced roller bearings on all axles of experimental No. 1111. After a sales swing around the country, she was sold to Northern Pacific

1931-1940

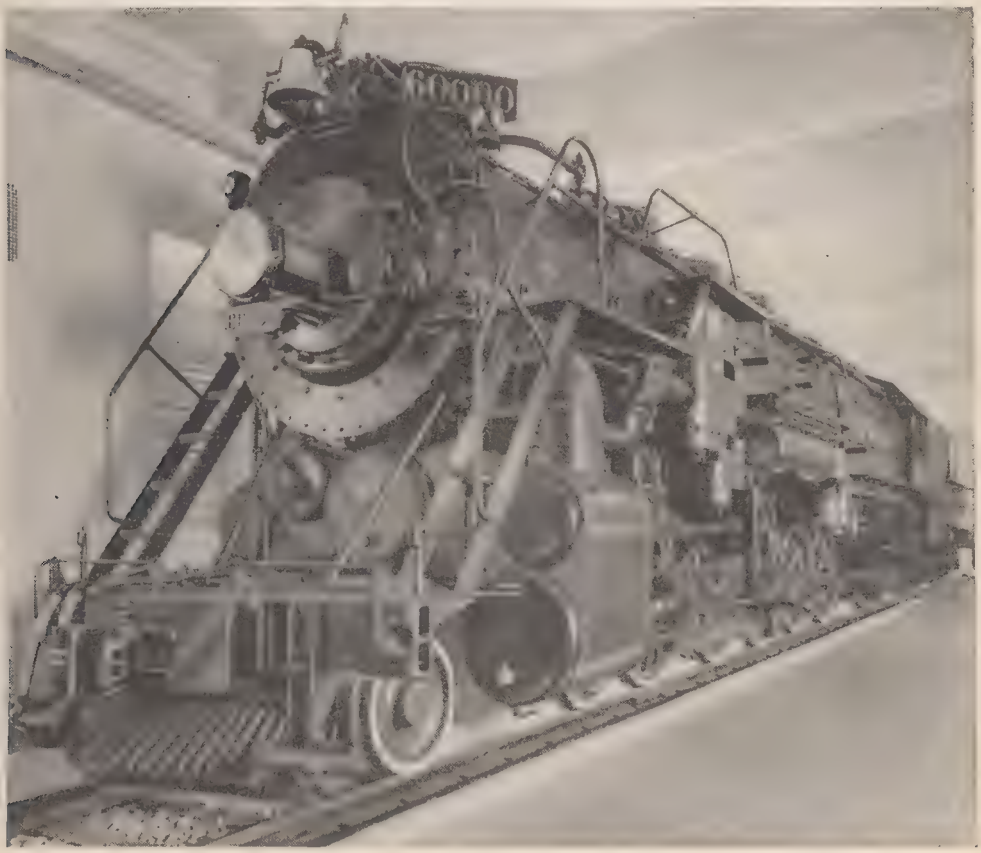
THIS DECADE opened with a business depression, which brought locomotive production to almost zero. Before recovery was fully under way, the first streamlined trains propelled by Diesel-electric power appeared, and it soon became evident that the steam locomotive was confronted with a rival far more serious than the all-electric. Streamlining appealed to the public, and various streamlined steam locomotives—some of them

Albert Farrow. 133-10th St., Auburn, Wash.



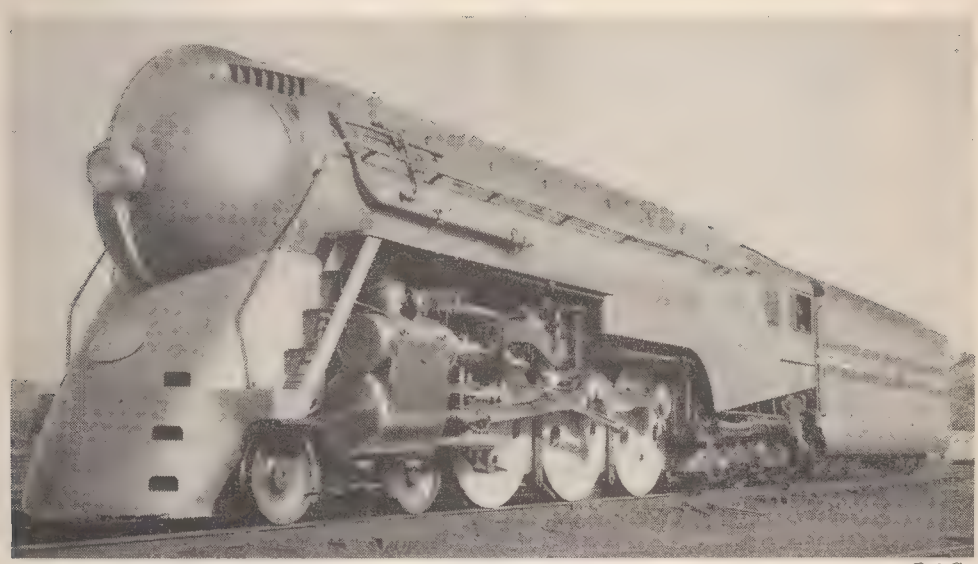
Frank Quin, 8414 88th St., Woodlawn, N. Y.

Above: Berkshire type, introduced by Lima, got its name from rugged hills it battled on Boston & Maine and Boston & Albany. ***Below:*** 3-cylindered 60000, now in Franklin Institute, Philadelphia, was a Baldwin boomer



Delaware & Hudson

Above: Delaware & Hudson's ***L. F. Loree*** was road's last attempt to produce a high-pressure (500 pounds psi.) locomotive. Of the triple-expansion type she had four cylinders; one high-, one intermediate-, and two low pressure; developed 90,000 pounds' tractive effort, working simple. ***Opposite page:*** Streamlining had publicity appeal but no practical value at average train speeds. New York Central ***Hudson*** cowling was work of Henry Dreyfus; PRR's S-1 was Raymond Loewy job. The latter engine was too large to meet clearance restrictions east of Crestline, O.



Ted Gay

new, and some old engines remodeled—put in an appearance. The chief value of streamlining was undoubtedly the appeal that it made to the public; for, except at extremely high speeds it had little effect in reducing train resistance. It was, at the best, more or less of an obstruction when doing maintenance work around an engine, and for that reason the streamlining covering some locomotives had to be partly removed to render the working parts more accessible.

The 4-8-4 type proved itself especially useful, as it was suitable for either freight or passenger service, and in that respect was comparable to the old American, or 4-4-0 type which, by the middle of the thirties, had all but disappeared.

A notable development of the fourth decade was the rapidly increasing use of roller bearings. Applications, at first, were confined to engine truck and tender axles, but they soon appeared on driving axles and, in some cases, crank pins. The result was decreased resistance at starting and moderate speeds, freedom from hot boxes, and increased locomotive avail-

(Continued on page 66)

Paul Eilenberger

Texas & Pacific

Mighty *Texas* type originated on the Texas & Pacific. In a grandiose gesture indicating that the days of the Steam Dynasty were numbered, T&P presented one of these monsters to the Texas State Fair last Christmas; announced that all others would be scrapped. ***Opposite page:*** Baldwin engineered the so-called "direct turbine drive," a geared steamer which failed to live up to expectations

Rail Photo Service

Baltimore & Ohio experimented with opposed cylinder drive; found that position of the rear cylinders under ashpan caused excessive abrasion. *Opposite page:* T-1s looked good on the drafting board but proved ace salesmen for Diesel power. C&O's steam-turbine-electrics cost a fortune; perform no better than 4-8-4s

(Continued from page 63)

ability. Ball and needle bearings have also been used in valve motion connections with most satisfactory results. Along with these improvements has come the use of force-feed lubricators for cylinders, valves, guides and other details of machinery. The force-feed lubricator has been of particular value on locomotives making long runs in heavy service.

End of the Steam Dynasty

THE DECADE 1941-1950 can hardly be considered one of progress in the steam locomotive field. The days of its dynasty were ended and while there was a marked increase in the demand for steam power during the war years this could be attributed largely to expediency, for governmental demands for Diesel engines and electrical equipment were so great that steam power could be obtained more promptly. An interesting last-stand development was the rigid-frame locomotive with four cylinders and divided drive; a locomotive so constructed, with a 4-4-4-4 wheel arrangement, had been built by the Baltimore & Ohio in 1937, and had been followed by the Pennsylvania's huge Class S-1 (6-4-4-6 type) which was mounted on a test stand at the New York World's Fair in 1939 and 1940. Next came two locomotives of the 4-4-4-4 type, built by Baldwin for the Pennsylvania and completed in 1942 (Class T-1). These were fitted with poppet valves and appeared so promising in performance that fifty more were ordered—twenty-five from Baldwin and an equal number from the Altoona Works. The Pennsylvania also tried the divided drive, with rigid frame, in freight service. Class Q-2 (4-4-6-4 type) of which 26 have been built, probably represents the most powerful steam unit yet turned out, as far as horsepower capacity is concerned.*

**It is interesting to note that on April 5, 1848, U. S. Patent No. 5532 was granted to G. A. Nicolls, Supt. of Transportation of the Philadelphia & Reading Railroad, covering a rigid wheelbase locomotive with two groups of driving wheels, each group driven by a separate pair of cylinders. Apparently, however, no such locomotive was built at that time.*

Arthur T. Knowles

Mention should also be made of the Pennsylvania's steam turbine locomotive (Class S-2), built by The Baldwin Locomotive Works and the Westinghouse Electric Corporation. This locomotive, completed in 1944, was tried out in different classes of service and met expectations as far as capacity was concerned, but it was not duplicated, nor are there prospects that it will be. Steam turbine-electric locomotives have also been built by Baldwin for the Chesapeake & Ohio, and at the time of writing, one is being designed for the Norfolk & Western.

Of necessity, many notable locomotives that have appeared from time to time have not been mentioned in this article, but it is hoped that a sufficient number have been discussed to give a fair idea of design trends through the years.

All honor to the reciprocating steam locomotive; one of the grandest and most useful pieces of mechanism that man has ever produced. The writer, for one, is glad to have had the privilege of watching its development since the days when an average fast passenger locomotive was a 4-4-0, with 18x24-inch cylinders and a boiler carrying 140 pounds of steam. He hopes that, as long as he has powers of observation, there will be at least some steamers for him to look at and admire.

Rail Photo Service

Railroadians of America

When derbied Superintendent Pilgrim and son posed before his Excursion Special at Paterson, N.J. in 1912 the NJRT had just been extended from Ridgewood to Suffern. A few months later tragedy waited around a curve

Electric Lines:

WHITE FLAGS INTO OBLIVION

By E. J. QUINBY

THERE IS SOMETHING fascinating about operating a special over a railroad where practically everything else moves according to the established timecard. Without necessarily realizing it, the crew members whose train sports two white flags up at the head end seem to enjoy a feeling of superiority through the knowledge they are operating on special orders and that special arrangements have been made to accommodate their train. On passing tower operators or station agents or upon making meets with other trains, significant whistle signals and manual gestures which call attention to the white flags have a way of establishing the Special's crew as privileged characters. Up and down the line everyone concerned with operations is alerted for the Special and additional caution is exercised to insure its safe handling and to prevent complications which might disrupt the road's regular schedule.

Standard railroad practice provides a double-check system in which no one man is relied upon in the avoidance of dangerous conditions. Invariably, two men or more must agree on information, advice and rules before a move is made and a decision accepted. Not only must they agree upon the effective orders, but also upon interpretation of the orders.

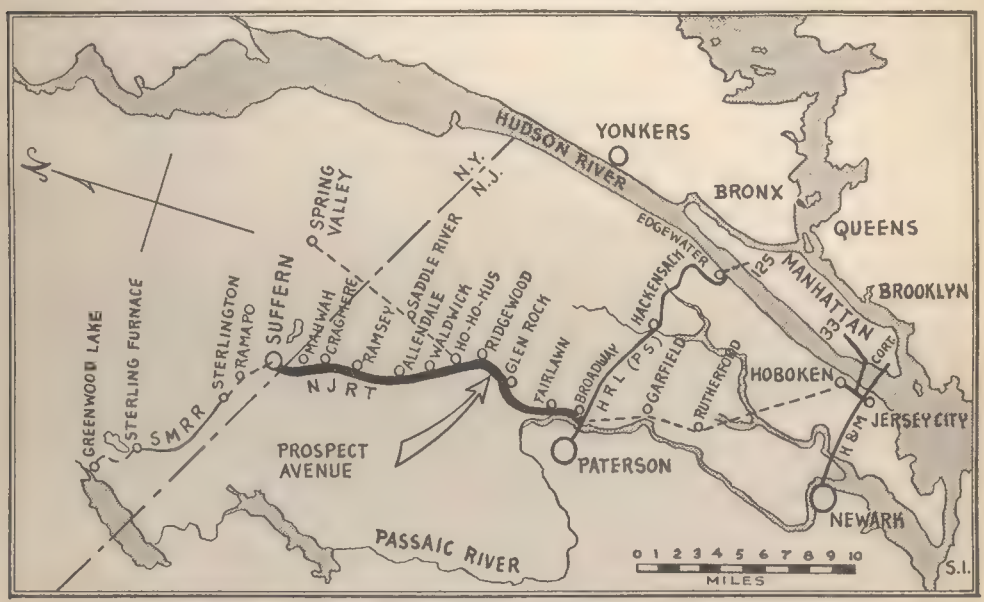
This true account deals with one of the cases—fortunately rare in railroad

history—in which standard precautions were not taken. It is not my purpose to place the blame on any individual or individuals. I shall let the reader be the judge and shall confine my efforts to relating the significant facts and circumstances which are still quite clear in my mind although some thirty-eight years have passed since the exciting and tragic event changed the course of the North Jersey Rapid Transit's history.

In 1910, the NJRT started out as a brand new high-speed interurban line from Paterson to Ridgewood, N. J. and by 1912 operations had been extended north to Suffern, N. Y. The project included a survey and plans for extension southward to connect with the Hudson & Manhattan tubes at Hoboken to provide much needed, fast commuter service between this increasingly popular suburban residential area and New York City. The promoters had elected to build the outer end of the line first, where real estate was cheaper to acquire for the right-of-way. They reasoned that it would be easier to get additional capital for the more expensive portion of the construction closer to New York after part was established.

So, the 15-mile section between Paterson and Suffern was built first. The comprehensive plans also included a branch from Hohokus northeast to Spring Valley and an extension to Greenwood Lake from Suffern via the old Sterling Mountain Railroad, which had fallen into disuse after the Sterling Mountain iron mine had petered out. Altogether, it was an ambitious project, one which was and still is greatly needed. It held great promise of success and profits.

The line's fleet of eight handsome Jewett interurban cars, painted olive green and trimmed in gold leaf, flashed swiftly through the scenic countryside and attracted a gratifying volume of patronage from the start. These cars were equipped with high-speed Baldwin-Westinghouse trucks, multiple-unit controls and air-brakes, automatic couplers, arc headlights, sturdy pilots, and had luxurious interiors trimmed in mahogany and provided with green plush upholstered seats. The entire line was on a 100-foot wide private right-of-way, on which a single-track was initially built with 75-pound rail and passing switches about every two miles. The whole road was built in accordance with



The single track between Glen Rock and Ridgewood led to Oblivion

the best accepted standards, with easy super-elevated curves, concrete and steel bridges and viaducts, tidy stations and platforms, cattle-guards and automatic electric crossing warnings. At each passing siding were located automatic electric block signals and a dispatcher's telephone. The road's headquarters was at Hohokus, where a large concrete and brick structure included the car-barn, substation, repair shops, dispatcher's office, business offices, crew quarters and a passenger waiting room.

For a considerable distance, the line followed Hohokus Creek, which it crossed and recrossed on concrete structures. Toward the north end of the route the line became increasingly hilly, terminating in a pass through the Ramapo Mountains where the town of Suffern is located.

The original personnel of the line included a superintendent named Pilgrim, who came to the road from one of the midwestern interurban properties. He invariably wore a derby hat above his bushy eyebrows and small mustache. Under his personal supervision he sometimes allowed his 12-year-old boy to operate the line's big work car—flying white flags on the head end. It was not unusual for Pilgrim himself to race up and down the line in one of the big green Jewett cars, carrying white flags on the front and his faithful Italian helper Dominick clinging to the trolley rope through the open rear window. Motormen and conductors on the line's regular runs became accustomed to surprise meets with Pilgrim's personal special at various switches along the line.

Upon meeting each other at sidings, it became the practice for the regular crews to pass the warning word, "Whisht—watch yerself—the Old Man is out again." Sometimes the dispatcher at Hohokus would be able to keep track of Pilgrim's progress up and down the line and to keep the crews of the regular trains informed accordingly—and sometimes not. At that time, however, the road's automatic block signals were considered ample guarantee against cornfield meets, and things went along merrily and informally without any serious mishaps—until July 4, 1912. On that day, the destiny of this promising enterprise was changed completely.

As usual on holidays, riding was extra heavy, so two-car trains were operated in place of the single-car units. The fact that Pilgrim was out on the line in Car 12 carrying white flags was nothing extraordinary. However, one unusual feature of the day's operations was a Sunday school special carrying a bunch of children and their escorts from Paterson to Suffern for a picnic. Although Motorman Huckins had walked into the office to quit his job the night before, he had been prevailed upon to make one more run the next day—the Sunday School Special. Accordingly, he and Conductor Ferris had taken Car 20 down to Paterson to pick up the excursionists—and they, too, were carrying white flags.

It was hot. The day was clear and sunny, but there wasn't a breath of air stirring. The trolley breeze was welcome. Huckins and Ferris opened all the windows so the crowd of children could enjoy the fast ride ahead of them. The Hudson River Line delivered the kids and their escorts to the interurban terminal, where lunch baskets, bathing suits and other paraphernalia were transferred to the North Jersey car. After calling the dispatcher at Hohokus for orders, Huckins and Ferris started north with their happy load, five minutes ahead of the regular train.

JUST about the same time Pilgrim left Waldwick southbound in Car 12, flying white flags. Ordinarily they would have paused at Hohokus long enough to ask the dispatcher what other trains were out on the line. However, it may be assumed that Pilgrim and Dominick were enjoying the breeze as the big interurban car gathered speed on the long, straight downgrade toward Hohokus. They could have been doing better than 70 miles an hour at the bottom of the grade, and it is possible that Pilgrim decided to "take another switch" upon reaching Hohokus, for they roared on through.

Photo from E. J. Quinby

Civil engineer George Jackson Jr. designed and supervised construction of the 15-mile NJRT line according to the best standards. This viaduct carrying the line over the Erie R.R. at Glen Rock was an example

But dispatcher Kennedy didn't see or hear them, for he was busy in the back of the substation at the moment. Even if he had seen them, there was little he could have done about it.

Just why Pilgrim and Dominick didn't go into the clear at the Ridgewood switch is something we shall never know. Did Pilgrim, gazing into the sun's glare, miss seeing the red light facing him at the Ridgewood switch? Or, approaching that switch, did he see the red light just as it lit up and deliberately proceed against it?

Witnesses later confirmed that Motorman Huckins cut in a green light ahead of him as he left Glen Rock northbound, so the red light must have been working against Pilgrim at Ridgewood. What might have tempted Pilgrim to proceed against that red light knowingly is the fact that a new switch was then under construction half way between Ridgewood and Glen Rock, but no block signals had yet been installed there. Is it possible that Pilgrim, having seen the red light go on just as he approached the Ridgewood switch, reasoned he would have ample time to make the new switch at Prospect Avenue and get clear before the opposing train reached that point? To do this he would have had to proceed beyond Prospect Avenue and back into the new siding, for only the switch at the south end was ready for service. The switch at the north end of that siding had not yet been completed, and this he knew.

Did Pilgrim assume that he would have time to make it, because he was running special and the northbound train would have to make its regular stops? It is quite possible that Pilgrim overlooked the fact that the train opposing him was the Sunday School Special. Actually, Huckins was racing just as fast as Pilgrim, in the opposite direction on single rail.

Halfway between these two speeding interurbans was a blind super-elevated curve, where the right-of-way had been cut through dense woods. Motormen of trains approaching from either direction could not see far along the track ahead at this point. Fate decreed that here would be staged the North Jersey Rapid Transit tragedy. If Pilgrim and Huckins saw each

Photo from Quinby

White-shirted Jackson, surveying the wreckage of the *Pilgrim Special* (Car 12) and the Sunday School Special (Car 20). Later he became Pilgrim's successor, still later mayor of Hohokus

other at all, it was evidently too late for either of them to slacken their speed. Indeed, the coroner's inquest subsequently developed the fact that the little master-controller handles of both cars had been found amid the resultant debris—both in full forward running position.

At Hohokus, Kennedy heard the alarm bell start ringing when the south-end circuit breaker flew out on the substation switchboard. After waiting the customary 30 seconds, he attempted to reset the breaker, only to have it immediately fly out again. After a second try, he was reaching for the telephone to call Pilgrim's home, where Pilgrim might have gone for lunch, when the phone rang. As Kennedy picked up the receiver, he heard a hysterical female voice. "There's been a dreadful accident," sobbed the voice. "The trains are all smashed . . . people inside are screaming . . . the cars are burning . . . Can't you do something quick? . . ." "Where?" . . . "Right back of our house . . . in Glen Rock . . . on the curve through the woods near Prospect Avenue."

Kennedy immediately phoned Paterson Hospital for ambulances, then he called all the doctors he could reach in Ridgewood. He called out a crew for the work train, and while he was waiting for them to show up he pumped up the work car and ran it out of the barn, ready for action. As he glanced down the line southward, he saw a great yellow cloud slowly billowing up from the horizon, and he felt his flesh creep. He had failed to get any answer on Pilgrim's residence phone. Where was the boss, he wondered? If only he could get in touch with Pilgrim.

Little did Kennedy realize that at that very moment, the boss himself lay impaled under the roof of Car 12, and that 20 and 12 were telescoped into the length of one car, with their four trucks bunched tightly together beneath the wreckage. Volunteer rescuers were already extricating the children and their escorts from the

smoking remains of the two specials. Conductor Ferris, himself badly injured, was doing what he could to assist. Eventually they got Pilgrim out of the debris and laid him gently in the grass beside the track, and by his side they stretched out his faithful Dominick.

Pilgrim raised his head once to survey the devastation, mumbled incoherently and expired. Whispering something about always going with the big boss, Dominick closed his eyes to join Pilgrim. Before Motorman Huckins could be extricated from the wreck, he too had passed to his reward, on his last run indeed.

Many of the children and their escorts were badly injured. It was precarious and heartbreaking work to get them out of the wreck without inflicting further injuries.

We didn't realize it at the time, but we were also witnessing the demise of a splendid railroad project. That part of the line which had already been built survived for seventeen years more, but it was dying a slow death. The important connection with the Hudson Tubes at Hoboken was never built. Neither was the elevated entrance to Paterson with the midtown terminal, where now stands the Alexander Hamilton Hotel. The Spring Valley branch and the extension to Greenwood Lake were never accomplished.

The litigation and the liabilities resulting from the wreck forced the line into bankruptcy and into the hands of a receiver. No further capital could be attracted to an enterprise with so many liabilities.

George Jackson Jr., the civil engineer who supervised the construction of the line, became its new superintendent. He and the safety-first program he established continued throughout the remainder of the road's existence. Later, Superintendent Jackson became mayor of Hohokus, and it was largely through his influence that the NJRT was protected from unfair competition on the part of those who wanted franchises to operate buses on the public highway which generally paralleled the railroad line. "The people along this line need buses as much as they need the itch," he said. "We'll put more cars on—if and when there is anybody to ride in them."

Jackson studied the road's problems carefully and continuously, and practiced the most rigid economies. But the line had no prime-mover plant and had no choice but to purchase its electric power at 13,200 volts, 2-phase, and at the rates dictated, from the Public Service Company. In 1928, after the railroad had become unable to meet its power bill, Public Service gained control of the line. Soon PS buses were operating along the parallel public highway, and were scheduled just ahead of the NJRT trains. Offering transportation at lower rates, they were able to "clean off the railroad station platforms" along the way, leaving little patronage for the already hard-pressed rapid transit trains.

It took only about a year with this maneuver to produce sufficiently unfavorable railroad income statistics to win permission to abandon, and in the spring of 1929 the Public Service organization ripped up the rails and pulled down the copper. These rails, in good condition, went to Russia to become part of the Trans-Siberian Railroad. The handsome cars were run down to the Plank Road shops and destroyed.

After the railroad was safely dispensed with, the half-hourly headway was curtailed to a bus every two hours, the fare was raised to a level higher than the railroad ever enjoyed and service on the northern end of the original route was discontinued entirely. The people whose patronage had been so easily weaned away from the railroad by the prospect of frequent and cheaper bus service complained bitterly but futilely.

Having run those handsome Jewett cars over the line myself as a young lad. I would like to return to the scene someday and place a bronze tablet on a granite marker at the site of the North Jersey Rapid Transit headquarters in Hohokus to perpetuate its fond memory. I think an appropriate epitaph would be "Sic Transit Gloria."

Ernie Plant, 3226 East 26th Avenue, Vancouver, B. C.

Everybody *looks* happy on farewell trips. Festive swan song involves Canada's longest interurban, BCER's Chilliwack route, with Bert Johnson as motorman. The line has gone to buses

Carbarn Comment

conducted by

STEVE MAGUIRE

REVIEWING the year 1950, we find fewer total abandonments in the electric railway field, due for the most part to the fact that the majority of the smaller, weaker lines are already gone. Only one more state was added during the year to the growing list of those without trolleys; in this case Kentucky became the latest on the unfortunate list, since the Cincinnati, Newport & Covington line made its last run July 8.

Elsewhere there was a continuing tendency on the part of the large operators of railway lines to cut off the less travelled routes, replacing cars with buses. Whether the advent of increasing military preparedness will have any effect on changes in the juice lines isn't known.

New York State was left with only a single passenger carrier outside of the metropolitan area when routes of Buffalo's Niagara-Frontier Transit System (formerly I.R.C.) were changed to buses on July 1st. The sole remaining passenger carrier is the Rochester subway, and its future, from latest reports, is in doubt. Several surveys have recommended that passenger service be given up, and portions of the road retained for freight, with the downtown subway converted to a highway through the city for autos and trucks. It is most unfortunate that a city such as Rochester, with a perfect set-up from which to build a system of fast, subway-surface routes, should have given up any chance for efficient rapid transit and

sold out to the bus outfit that is clogging its streets with slow, crawling, fuming stink buggies. In upstate New York there are now only two juice freight lines, the International Ry. Co.'s N. Tonawanda-Lockport line, which may eventually be sold to the Erie, and the Niagara Junction Ry. at Niagara Falls, primarily a freight switching line.

Two interurbans disappeared last year, the Des Moines & Central Iowa which converted its freight juice jacks to Diesel operation early in the year, and the passenger-carrying Chilliwack line of the British Columbia Electric, longest of Canada's interurban routes, 78 miles in all, bussed in October.

Also in October, on the 15th, the last cars of the Wilkes-Barre Transit were operated, we learn from several fans, including Ed Miller, Wilkes-Barre, and Andrew Maginnis, Cynwyd, Pa. The last two lines to operate, Nanticoke and Hanover, were the remnants of a once-extensive city and suburban system in the eastern anthracite region of Pennsylvania. Horsecars were first operated in Wilkes-Barre on June 25, 1866, with electrics coming in 1888. At its height, the Wilkes-Barre lines had 96 cars serving 115 miles of track.

* * *

BOSTON is ordering 50 more streamlined trolleys for the Metropolitan Transit Authority routes, reports Ray McMurdo, 158 Main Street, Spencer, Mass. In addition 90 trolley buses are on order for the Hub City.

Toronto is placing the 50 PCC cars it recently acquired from Cincinnati St. Ry. into service, renumbering them in the TTC 4550-4601 series. At the same time 40 of the old wooden type cars in Toronto are being scrapped, and more of the old cars will go after arrival of 50 new PCC cars ordered from Canadian Car & Foundry Co., reports the Upper Canadian Railway Society in its monthly *Newsletter.*

* * *

OUR story of battery cars in the September, 1950 issue brought recollections of old days on the New York City lines to Frank V. Burton, 2304 Delancey Pl., Phila. 3, Pa., who points out that experimental cars powered by compressed air were tried out on the 28-29th Street Crosstown Ry. in the early days of the century. Similar in appearance to the battery cars, they had the compressed air tanks running lengthwise under the seats, but in order to get as much capacity as possible, they were of such size that seats

Harry B. Adams, Box 200, Yale Station, New Haven, Conn.

Its days are numbered. No. 5584 of Boston's Metropolitan Transit Authority leaves Haymarket Station, flanked by MTO's El tracks. On order are 50 streamlined trolleys, 90 trolley buses

were raised well above usual streetcar level, with the result that short people often had to hitch themselves up sideways on the seats.

When the Metropolitan St. Ry. started its first line with the under-running conduit third rail on Columbus Ave. between 109th and 149th Street, they met a problem as soon as the first snow storm occurred. Doing as they had always done with horse cars, they proceeded to spread a generous amount of rock salt on the surface of the tracks. The resulting brine short-circuited the third-rail plows, and the resulting fireworks were a sight to behold, especially at night. It looked like balls of fire tearing along Lenox Avenue, as the cars operated along the salt-covered power line.

The morning after the first snow, Mr. Burton visited the powerhouse and found a crew of men on the switchboard, trying to prevent the four-line circuit breakers from tripping. When the load got so heavy that the generator breaker went out, they would open all of the line breakers and start over again. There were many plows that had burned out during the night. The company finally built a salt car which, by means of a funnel put the salt into the slot so that only a small amount got onto the surface. To the end of the underground third rails on New York lines in 1949, salt cars of this type were a part of standard equipment and were operated every time there was a snow storm or a freezing rain.

* * *

THERE may be a change in policy for the Twin City Rapid Transit trolley and bus lines in the Minneapolis-St. Paul area, as the result of control of the company being lost by operators who seemed bent on a plan to cut down operations, both bus and rail, as much as the public would stand for.

Ousted was Charles Green, the former president, who was responsible for the shutting down of the big Snelling Avenue car shops. Up until his group gained control a year or so ago, the TCRT cars were well-known as being among the best maintained in the U.S. Today, the new group is having difficulties in getting back its blacksmiths and other old employes in the shops. Many have taken other jobs, and thus far production has been at a minimum due to the difficulty of obtaining experienced labor.

We hope that the new group will bring the TCRT back to its former position at the top of the railway operating field. Certainly Green and his crowd did their best to buck public opinion and they were constantly at odds with the city and the public utility commission.

* * *

ALTHOUGH there may be fewer car lines to ride, the volume of railfan publications continues at a high rate, even including your editor's contribution to the field, about which more later.

The Atlantic City Trolley Lines, a 16-page story of the famed Shore Fast Line, together with the predecessor routes which go back to steam dummy days in the Jersey shore resort city, is the latest item of the North Jersey Chapter of NRHS, in their publication, *The Marker.* Well-illustrated, the issue contains many fine old views, with maps and roster. Copies can be had from R. S. Wendeling, 114 Oakley Ave., Roselle, N. J.

A west coast interurban line of bygone days is the subject of a recent issue of the monthly *Western Railroader* which featured the Tidewater Southern Ry. in a 12-page, illustrated story. Some fine steam and interurban views are included. Copies are available from the magazine at P.O. Box 668, San Mateo, Calif.

The Boston Chapter of NRHS in its monthly issues of *The Turnout* has compiled some detailed rosters of New England juice lines of days past. In the October issue, the Androscoggin & Kennebec Ry. roster was completed, while a Boston & Worcester roster was presented in part. For *Turnout* subscriptions write Wm. V. Kenney, 90 Walworth St., Boston 31.

Caught on the Ocean City, N.J. drawbridge, by Carbarn Comment's camera, AC&SRR's car No. 113. That's Ocean City in the background. The sign on the bridge, "Philadelphia-Atlantic City, Shore Fast Line" doesn't refer to the rail line's limits, of course

Along a slightly different line, your editor has joined with Felix Reifschneider in publishing a trolley photo book, *Trolley Pictures of the Empire State,* 48 pages of electric railway photos from the New York State lines, large and small. 138 views are included on high-grade paper, the best of your editor's collection, with a few others from Mr. Reifschneider. Copies may be had from Felix Reifschneider, Box 774, Orlando, Fla.

* * *

ALL BUT ENDED is the colorful history of the second largest of Maine's four major electric railway systems—the Atlantic Shore Line Railway, known in better days as "The Sea View Route." However, the National Railway Historical Society's Connecticut Valley Chapter has seen to it there will be no lack of interesting reading matter on the Shore line.

In *"A History of the Atlantic Shore Line Railway . . . It's Predecessors and Its Successors"* Osmond R. Cummings writes a fitting obituary to this victim of high costs, buses and autos. Cummings' account takes in the four predecessors—the Mousam River Railroad, Sanford & Cape Porpoise, Portsmouth, Kittery & York Street and Portsmouth, Dover & York Street Railways—and the successor—the York Utilities Company. Last year York sold its three-mile electric freight line between Sanford and Springvale to the newly-organized Sanford & Eastern Railroad. In turn S&EL went Diesel. York is still in business, but with buses.

This 50-page booklet selling for a dollar, contains 74 halftones, nine drawings and maps, two ticket reproductions, two reproduced timetables in separate inside-back-cover envelopes, full-sized reproduction of a Shore Line stock certificate, car rosters and a seven-page facsimile reproduction of a Shore Line article from a *Street Railway Journal* of 1907.

Also available are eight other Connecticut Valley Chapter booklets published since 1946, priced from 20 cents to a dollar. Railfans may order from Roger Borrup, chapter publication chairman, Warehouse Point, Conn.

Statement of the Ownership, Management, and Circulation. Required by the Act of Congress 24, 1912, as amended by the Acts of March 3, 1933, and July 2, 1946 (Title 39, United States Code, Section 233), of Railroad Magazine, published monthly at Kokomo, Indiana, for October 1, 1950. 1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Harold S. Goldsmith, 205 East 42nd St., New York 17, New York. Editor, Henry Steeger, 205 East 4nd St., New York 17, New York. Managing editor None. Business manager None. 2. The owner is: Popular Publications, Inc., 205 East 42nd St., New York 17, New York, Henry Steeger, 205 East 42nd St., New York 17, New York, Harold S. Goldsmith, 205 East 42nd St., New York 17, New York, Shirley M. Steeger, 205 East 42nd St., New York 17, New York. 3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: None. 4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner. Signed, Harold S. Goldsmith, Publisher. Sworn to and subscribed before me this 2nd day of October, 1950. Eva M. Walker, Notary Public, State of New York, Qualified in New York County, No. 31-9506600, Certificate filed with: City Register N. Y. County, Commission expires March 30, 1952 (Seal)—Form 3526—Rev. 2-49.

Harvey Uecker

Big ***Northern*** 267 is one of 10 S3-Class locomotives built by Alco in 1944, CMStP&P's last steam order. These 4-8-4s are the only Milwaukee engines equipped with semi-Vanderbilt tender

Locomotives of the Chicago, Milwaukee, St. Paul & Pacific

Steam Locomotives

0-6-0 (Switcher) Type

Class	Numbers	Cylinders	Drivers	Pressure	Engine Weight	Tractive Effort	Builder and Date
15a	1403, 1405–1407, 1412, 1413, 1418, 1419, 1420, 1422–1426, 1429, 1431, 1432, 1434–1436, 1438, 1440, 1442, 1446, 1449, 1451, 1456, 1458–1460, 1462, 1463, 1466, 1467, 1469, 1473, 1474, 1476, 1478, 1479, 1481, 1483, 1485, 1487, 1489, 1490–1492, 1494, 1495, 1497, 1500, 1504, 1505, 1507, 1513, 1514, 1520, 1522	19 x 26	51	180	127,000	28,158	R.R. Co. 1903–13
16	1525–1527, 1529–1534	20 x 26	51	180	143,100	31,200	R.R. Co. 1913, 14

0-8-0 (Switcher) Type

D1	1550, 1551	23½ x 28	51	200	284,300	33,275	Baldwin, 1913

2-6-2 (Prairie) Type

K1	901, 903, 910–912, 914, 918–926, 928–930, 933, 935–937, 939, 940	21 x 28	63	200	208,900	33,320	Brooks, R.R. Co., 1907, 08

Milwaukee is one of the few roads still using old-time redball freight favorite ***Prairie*** type

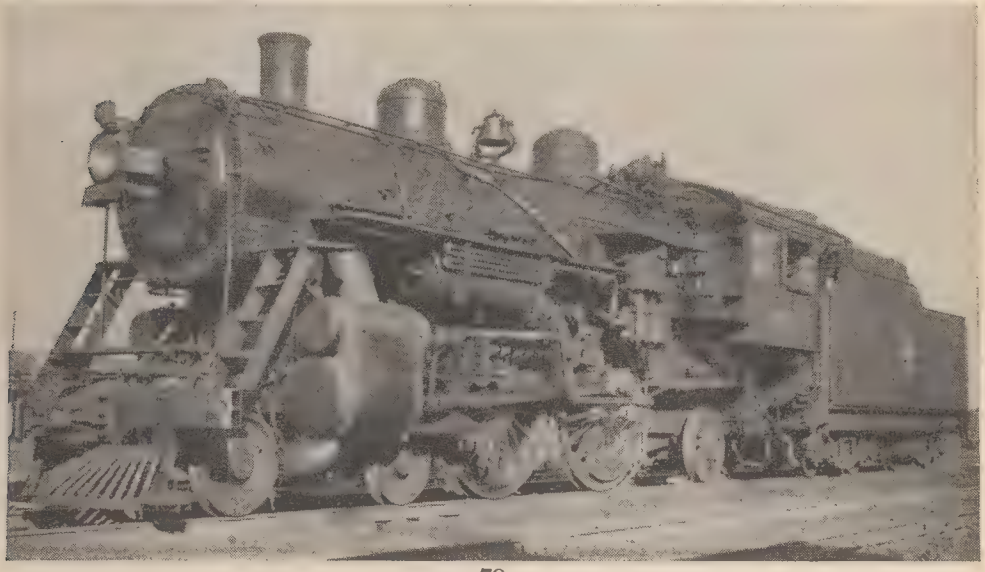
W. R. Hicks

W. R. Hicks

Though *Ten-Wheeler*, above, and *Atlantic*, below, were both built by Baldwin in the early 1900s, comparison shows radically different approach to design: the 4-4-2 is trim, clean-cut, the 4-6-0 like a rolling junk yard with excess of outside plumbing

	941	21 x 28	63	200	217,600	33,320	R.R. Co., 1908
	943, 944, 949, 950, 954, 958, 960	21 x 28	63	200	208,900	33,320	R.R. Co., Brooks, 1907–1909
	2-8-0 (Consolidation) Type						
C5	1200–1204	24 x 30	63	185	220,000	43,131	R.R. Co., 1912
	1205–1209, 1211–1233, 1236–1241, 1243–1245, 1247–1249	24 x 30	63	185	224,000	43,131	Alco, R.R. Co., 1912, 13
C2	1250–1252, 1254, 1256–1272, 1274–1279, 1281–1285, 1287–1290	23 x 30	63	200	219,900	42,823	R.R. Co., Baldwin, 1909, 10
	1300, 1313, 1319, 1321, 1322, 1330, 1331	23 x 30	63	200	215,700	42,823	R.R. Co., Baldwin, 1910
C3	1346, 1347	22 x 30	55	200	203,400	44,880	Baldwin, 1911
C7	1353–1359, 1361–1366	25 x 32	61	190	240,000	52,951	Alco, 1910, 12

J. Buckley



Bob Nicholls

For many years Milwaukee favored inboard bearings on trailing trucks. It's not apparent in picture, but diagram of veteran F5 *Pacific* shows barrel sharply tapered from firebox to smokebox

2-8-2 (Mikado) Type

L3	300–313	27 x 32	63	200	331,335	62,949	Alco, 1919
L2	314, 316–319, 321–335, 337–372, 374–398	27 x 32	63	200	320,000	62,949	Alco, 1918, 19
	400–494, 496–499	26 x 30	63	200	292,770	54,723	Baldwin, 1922, 23
	500–504, 506–510, 512–527, 529–532, 534–538, 540, 541, 543, 545–550, 552, 554, 556, 558–566, 569, 571–580, 582, 585–587, 589–593, 595, 596, 598	26 x 30	63	200	287,700	54,723	Baldwin, 1920, 21
	600, 601, 603–606, 608, 610, 613, 615, 618, 620, 627–629, 631, 632, 636–640, 643–646, 650, 653–658	26 x 30	63	200	277,800	54,723	Alco, 1912, 13
L1	664, 665, 669–673, 675, 676, 678–682, 684, 687, 688, 691–693, 697, 700, 704, 706, 707, 709, 711–714, 717–720, 723, 724, 726, 729–731, 733–736	26 x 30	63	200	275,000	54,723	R.R. Co., Alco, 1912, 13, 14
	750, 753, 755–761, 764, 767	24 x 30	63	200	275,000	46,628	R.R. Co., 1909

4-4-0 (American) Type

H8	98	18 x 26	67	180	131,000	19,236	Rogers, 1904

4-4-2 (Atlantic) Type

A	1, 2, 4	19 x 28	84	300	182,700	36,568	Alco, 1935, 37
B4s	30, 31	22 x 28	79	200	208,800	29,162	Baldwin, 1907
B4as	32	22 x 28	79	200	216,000	29,162	Baldwin, 1909

4-6-0 (Ten-Wheeler) Type

G8	1000, 1001, 1003–1024	22 x 28	63	200	182,700	36,568	Baldwin, 1901, 03, 04
G7	1025–1030, 1032, 1034–1041	22 x 28	63	200	181,300	36,568	Baldwin, 1901, 02, 03
	1050–1062, 1064–1069, 1071–1073	22 x 28	63	180	182,100	32,912	Baldwin, 1901, 02, 03
G6	1076, 1079–1081, 1083, 1084	21 x 30	69	200	189,800	32,595	Baldwin, 1900
	1102, 1103, 1104, 1105, 1109–1113	22 x 26	69	200	187,600	31,004	Baldwin, 1913
	1140, 1142–1145, 1147–1150, 1152, 1153, 1155, 1156	20 x 26	63	180	155,500	25,257	Baldwin, 1898, 99
	1158, 1159	20 x 26	63	180	155,500	25,257	Baldwin, 1900
	1161–1163, 1165–1167, 1169–1173, 1175, 1177,						

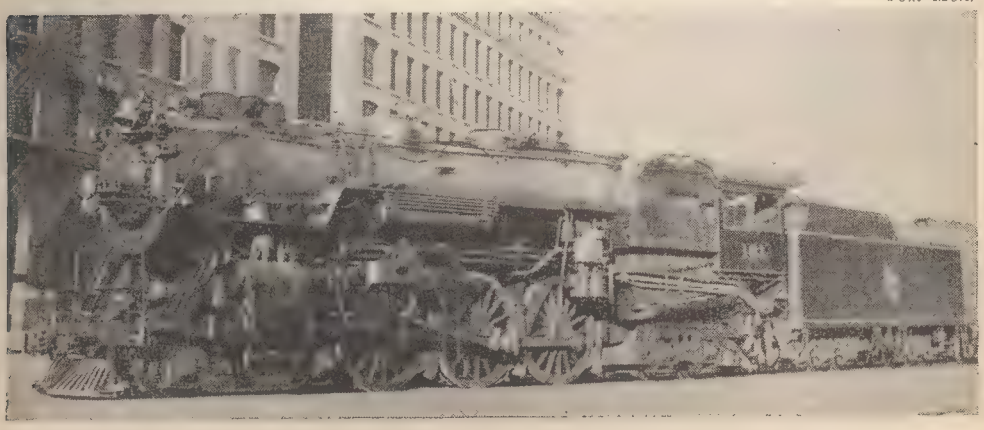
John F. Boose

Mikado **682 has stack extension which can be removed where clearances do not permit its use. Most Milwaukee engines have outside injector connections despite cold Mid-west winters**

	1178	19 x 26	63	200	165,600	25,327	Baldwin, 1899
	1179–1182	19 x 26	63	200	164,500	25,327	Baldwin, 1900
			4-6-2 (Pacific) Type				
F3	150	23½ x 28	79	200	263,866	33,275	Alco, 1910
F1	151, 152	23½ x 28	79	200	284,300	33,275	Alco, 1910
F3	153, 155–163, 165–179, 181, 182, 184, 185, 188–190, 192–198	23½ x 28	79	200	247,300	33,275	Alco, 1910
F5	802–804, 806–808, 810, 815, 817, 818, 820–823, 825, 826, 828, 831, 833	25 x 28	73	200	258,000	40,753	R.R. Co., Alco, 1910, 11, 12
	835, 836, 838, 841, 843–846, 848, 849, 851–853, 855	25 x 28	69	200	253,000	43,116	Alco, 1912, R.R. Co., 1910, 12
F4	875–877, 881, 885, 887, 888	24 x 28	73	200	253,000	37,558	Alco, 1910
	889, 890	24 x 28	69	200	253,000	39,736	Alco, 1910
			4-6-4 (Hudson) Type				
F7	101, 103–105	23½ x 30	84	300	415,000	50,294	Alco, 1938
F6	125–138	26 x 28	80	225	375,850	45,250	Baldwin, 1930
	139–146	26 x 28	80	225	380,220	45,250	Baldwin, 1931
			4-8-4 (Northern) Type				
S2	201–240	26 x 32	74	285	490,450	70,816	Baldwin, 1937, 38, 40
S1	250, 251	28 x 30	74	230	466,530	62,136	Baldwin, 1930, R.R. Co., 1938
S3	260–269	26 x 32	74	250	460,000	62,119	Alco, 1944
			2-6-6-2 (Articulated) Type				
N3	50–54, 56–61, 63–66	21½ x 30	57	200	390,300	82,720	Alco, 1910, 11

F6 ***Hudsons*** **were delivered with 79-inch drivers, which were later increased to 80 inches with loss of few hundred pounds in t. e. Trailing truck is Timken roller-bearing equipped**

Tom Mohr



JINX ☆ run

JUST HOW it happens that a man or an engine or a run gets jinxed is something no railroader can tell you. If he knew himself, he could profitably retire with or without his pension, hiring out as troubleshooter in general for the hundred-odd Class I railroads in America. But there's one thing anyone who has seen a hoodoo at work can assure you of: there'll be all hell to pay as long as the spell lasts.

The Berkshire Northern got hit a few years back, just when it was emerging from the red. After a run of exceptional

As the bull fired, one man slumped on the tracks, the other ducked toward the shadows

By THEODORE WALLACE

good luck General Manager O'Neil, anxious to regain some business lost to the trucks, initiated a special fast-freight service to the coast. From the very beginning one obstacle after another hindered the making of time on this run, until it looked as if defeat were inevitable. The Old Man growled loud, threatened wholesale dismissals and finally got out on the pike himself to keep the ball rolling. But it all did no good; the hoodoo seemed destined to stay.

It was strange, too, for the tough winter had passed and the good weather was at hand. Then one night Sam Burns, the night roundhouse foreman at Red Oaks, slammed the receiver back on the hook for what he was determined was the last time. "I'm licked," he swore in anger as the blood boiled within him, realizing he

was as much a failure as his crew dispatcher. "This job's a jinx and if men won't work I can't force them. There's nothing else to do but cancel the train."

Outside, the cool mountain breeze had blown the sky clear of clouds, leaving the moon to climb high in the heavens without hindrance. Sam yanked off his greasy cap and threw it onto his desk. His calloused hands ran over a damp brow sallowed by years of night work. His thin face was drawn, his deep-set eyes worried, as he raised his head to glance through the smoke-stained windows and note the swing of a lantern as the table operator motioned the big *Mallet* into the house.

Sam's gang was well trained. They functioned with but a few orders. The foreman knew the hostler's next move would be to take the hotshot engine out onto the ready track. Shifting his gaze to the large timepiece on the smudgy wall he saw the second hand wind at a rapid pace, taunting him as minute by minute it approached the hour. Now it was just nine o'clock. In 60 minutes more Sam would have to dig up a fireman or cancel the train, the special train. It looked like the latter, for not a single man could be had.

Clifford, the dispatcher, pushed aside his worksheet to offer some final advice. "Why not send the company doctor up to everyone who fell out sick? I wouldn't let them get away with this," he said with bitter force.

"We tried that last Christmas," Sam grieved, "and they locked the doors."

"Then take a man off a night yard job the way you did last week. Better tie up a switcher—"

"That won't work either," said the foreman gloomily. "You saw the super's letter. The committee got a ruling on that after I forced Campbell to fire the job. What a mess he made of things, falling off the tank while taking water at the summit and winding up in the hospital. That was a four-hour delay." He shook his gray head. "It's no use," he went on. "You just can't beat a jinx."

The wind whistled about the walls of the small office and suddenly went silent. Through the lull there came a heavy thump as the wheels of a *Mountain*-type engine hit the uneven rails of the turntable. Burns watched the big giant come to a balanced stop, heard the hum of the motor as the tracks were lined. At the signal the hostler backed the big steed, jacket sleek in the moon glow, down to the water plug where his helper slammed open the manhole cover. To these men, unaware of what was transpiring, everything was going smooth. With the foreman a war was on. Slipping into his chair he sat motionless while his mind worked feverishly with its problems.

FROM OUTSIDE came the clanking of spout as it was pushed aside and the engine betrayed its restlessness with a whine from the working pop. At just that moment the outer door of the office opened and into the register room stepped a stranger. He was a kid, small and frail and hardly 20 years of age. A lock of sandy hair hung down over his white forehead from beneath a long-visored cap. The bag he carried over his shoulder slid to the floor as he noted the dim faces of the men beneath the green-shaded lamps.

Sam Burns mumbled to himself, as if alone. "I don't blame anyone for refusing the run. There hasn't been a smooth trip since the job went on months ago. Steam failures, breakdowns, derailments! It's going to get my scalp." The foreman's angry voice grew louder with every word.

Suddenly Sam leaped to his feet. "Who says it's getting my scalp?" he hollered. "Not mine, I'm quitting. I've been working nights long enough. I'm walking out right now." His face was scarlet, lined with deep, black wrinkles.

The dispatcher smiled grimly. "Sure. why not!" and he broke into a laugh. "I feel like doing the same thing working night after night. But who's going to buy groceries for the wife and kids?"

As the words sank in, Sam came back

to earth. His slumped shoulders straightened and he doubled his fists to suppress the anger mounting within him. The clock ticked loudly and Sam's sharp eyes caught once again the winding of the hands. His burning gaze held for a long moment until a forced cough, from the unnoticed kid, made him snap about startled. "Well, what do you want?" he roared.

If the lad was frightened his young face gave no betrayal. In a firm tone he answered, "I'm a fireman and I'm looking for a job."

"You!" The foreman nearly went out of his mind. "Why you couldn't fire a pencil across the room! Get out!"

But the youngster hung on determined. "You're in a hole," he said. "I overheard everything. Why not give me a chance? You've nothing to lose."

As Sam hesitated, he noticed the kid's tightened lips and the flashing eyes and he was certain he had seen the features before. The youngster went on, "I'd kind of like the job you've been raving about, a sort of jinx. Put the two of us together and maybe . . ." He chopped the sentence off short, leaving the words hanging in the air as if he had said too much already.

The foreman sparred for time. His mouth pursed and he tried to whistle, but no sound came from his dry lips. Clifford watched him with mild amusement, wondering what decision he would make. Then he heard him weaken. "How do I know you're a fireman?"

The kid's face brightened. Reaching into his pocket he brought forth a wallet. "I'm a Brotherhood man. Look, here's my last receipt."

The foreman took the slip of paper and hastily turned it over in his hands. His troubled mind was working fast. "Know anything about BK stokers?"

"Sure, I was raised on them," he replied tersely.

Burns hesitated again. "How come you hit this pike and at such an hour of the night?"

"Just blew in from the West. Been working on the UP and Santa Fe. Came over to see how things were going when I overheard what you said. You give me a chance and I'll make good. I'd like to stay here." There was an earnest ring to his tone.

Same weighed the problem. He might go on asking a thousand questions and get nowhere. He knew he didn't have the right to hire firemen, the super did that. There was the matter of a physical exam and an eye test, still this was an emergency. In the past officials had always upheld his judgment and he decided it best not to cancel the run.

"You got fifty minutes to get ready," he told the boy.

MIKE CLIFFORD'S chair spun as if released by a spring. He glared suspiciously at the kid as he heard him say, "All right, I'll sign on. I'm tired from riding a gondola all day but I guess I can make it. Where can I get a good feed?"

"The beanery's across the tracks by the station," Sam told him. "Watch your step going through the yard. Walk around by the switchman's shanty. They're busy making up your train."

The tallowpot kicked his bag into a corner and hastened out the door. In the lobby he bumped into a machinist coming out of the phone booth. Excusing himself he hurried by and went out into the cool night.

Clifford went after Sam the moment the kid was gone. "You're heading straight for trouble. They'll fire you for violating the rules." Taking a long drag on his cigarette, he added, "and there's something else. I don't like the way the kid acts, the way he dropped in so conveniently. There's something fishy about this whole thing. You can see he ain't a boomer. He's too slick and polished to suit me."

"He has a Brotherhood card."

"There's lots of ways of getting that. It might be stolen or forged. I watched you when you looked it over. You didn't check close. Bet you can't tell me his name."

Sam shrugged his shoulders. "But what else can I do? We've got to get a man."

"I have my suspicions just the same," replied the dispatcher. "Something's going to happen tonight that will get you in trouble. I wouldn't be surprised if that guy's a crook. Maybe there's something valuable in one of the cars? Maybe . . ."

The foreman's head swung back and forth. "No, that kid ain't a yegg, not with a face like that." And yet he was not too certain of himself. To bolster his judgment of his decision he forced himself to add, "I got a hunch we might even bust this jinx tonight."

"Yeah, you'll bust something all right," muttered Clifford sarcastically.

Sam took another look at the clock and headed for the door. "I'm going over to get a cup of Java," he said. "I'll be back in a few minutes."

The safe approach to the restaurant was not in a direct line. A maze of tracks, with scattered cars, separated the office from the lunchroom. The only safe course was to walk the few hundred yards up by the storehouse where the tracks converged into long leads. Burns knew it was dangerous to climb between cars and over couplers but he also knew that a straight line was the shortest distance between two points. For years he had saved steps and valuable time and tonight, with the moon bright, there was little risk in taking the shortcut.

When Sam entered the beanery the man behind the counter knew what the foreman wanted. Drawing a cup of coffee he placed it before Sam. As the foreman stirred the dark liquid he cast a hasty glance along the stools. Halfway down was a hogger and a brakeman having a bite before hitting the hay. At the far corner he saw the kid wrapping himself about a juicy steak. Between sips Sam observed him closely.

The foreman's brow wrinkled as his mind grew perplexed. The way this kid handled his knife and fork and the manner in which he placed each small piece of food between his lips made the belief grow stronger that Clifford was right. This lad was no tallowpot. He was reared in a finer environment. Maybe he was wrong in giving him a job; maybe it would be wise to make another try? He decided to stall for time and question the stranger further.

As he toyed with his coffee he kept an eye on the wall clock watching the precious minutes slide past. When the kid had finished his meal and ordered a wedge of pie, Sam's impatience was at an end. Sliding off his seat he started for the enginehouse. There was still plenty of work to be done.

When the tallowpot had finished his meal, he patted his lips with a paper napkin and paid his bill. The counterman slid the change beside the empty plate and nearly fainted when the lad uttered, "Keep the change. That feed sure hit the right spot." With that he went out the door, returning the way he had come. As he followed the tracks he could not help but notice a figure climbing over couplers in a direct line with the enginehouse.

The kid's feet hit the cinders with a hurried step as the yard goat kicked off a string of cars and then backed up. The cars shot past him stopping abruptly with a loud report as they struck a long drag of loaded gondolas. Dust rose to mingle with the moon's rays above the car tops. The yard engine backed up the lead and out of sight.

TAKING EVERY precaution the kid started to cross the tracks. About halfway over he noticed a train made up, with a buggy attached and markers shining clear and bright. In the canyon between the cars he could see the conductor, lantern in the crook of his arm, checking numbers and seals. He saw the man complete his work to disappear into the crummy. "That must be my train," he said to himself.

As he hurried along he took care not to step on the slippery rails but with all his caution a toe caught and he went down to his knees. Ashamed of his carelessness, he turned to see if anyone had observed him. In that dim gloom some-

thing arrested his attention and he stopped. There in the shadows were two men; one had a short bar with which he had just pried open a door. As the fireman watched a third man appeared, dropping from between two cars on the shortcut through the yards.

The stillness of that moment was soon broken by a dull thud. In the same instant there was a piercing shriek and a struggle that ended abruptly. A dozen cars from the buggy the boxcar door opened with a grating noise. The kid's eyes burned as he watched the two men push a lifeless-looking body upward and then follow themselves. Then he heard the door close, and all was quiet again.

For nearly a minute the young fireman stood frozen in his tracks, his mind muddled. Not far from the lighted caboose he could see the connie and flagman inside, readying things for the trip. His first impulse was to run and tell them, but something suddenly changed his mind. And then he heard a pop sizzle and explode and not long afterward there came a couple of soft toots of the whistle. His thoughts changed with the rapidity of a film on a screen. "That must be my engine," he muttered. "I'm late."

Cold sweat beaded on the kid's brow and ran down his cheeks. His thin body trembled with excitement as he hurried toward the enginehouse, entering by the end door. The section was poorly lighted, deserted save for a few rusting locomotives out of service for months.

He followed the white-washed walls at a jogging pace, slid open a heavy door into the middle section and rushed on. He nearly knocked down a machinist helper looking for some tools, and as he streaked past, he heard the man let out an oath. Out of breath he slipped into the locker room by the office.

He was still breathing heavy when he came to register. He found his bag of clothes, opened it and, as he donned his overalls, heard Clifford say on the phone, "He should be back any minute. Just

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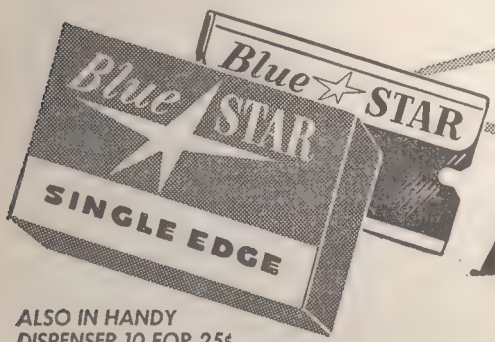

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went over for a cup of coffee." Seeing the kid, the DS inquired, "You been over to the hash house?"

"Yeah," replied the fireman.

"Did you see Burns?"

The boy's face flushed. "Me! Why no." As he adjusted the goggles above the long peak of his cap, he could see the dispatcher staring at him with callous mistrust.

"What engine we got?" he inquired.

"The 605's out there," called the DS, "and Connors is waiting. Hope you keep her hot, but you won't. No man ever did for Jake. That's why you're on there tonight."

Jake Connors was a ballast scorcher whose chunky frame was devoid of nerves. His cheeks were ruddy and full, his lips heavy and his words had a habit of shooting out as if they were poison darts. On the latch his hand was heavy and his reverse was accustomed to long cutoffs on the grade. Firemen couldn't take his beatings for long, so they avoided his run. When the new tallowpot threw his stuff up on deck, Jake was blowing down the water glass.

The steam had ceased escaping from the drain when Connors noticed the kid. "My name's O'Rourke," said the newcomer.

THE FIREMAN tried to smile but a leaden weight inside sickened him. His face went ashen grey. "I just came in from the West," he said with a soft firmness. "The foreman was short of men so he gave me the chance."

"Burns!" bellowed Jake. "He ain't hiring my firemen."

"But he was licked. He couldn't find a man anywhere, so he gave me orders—"

"Orders or not, he ain't sending a schoolboy out with me," Jake announced. "This is a fast freight, the most important on the road. It calls for an oldtimer with experience."

The kid drew back a step and as he did his foot struck the firedoor pedal. The door flew open and he glanced in at the fire. Cracking the blower, he reached for the long hook and knocked some hot coals under the arch. Stooping down he surveyed the dry crownsheet after which he adjusted the jets and gave the stoker worm a twirl.

Connors was prepared to head for the office, before his eagle eye caught every deft move of this man on the deck. Instead he fell into his seat, his interest sharpened to a keen edge. This tallowpot acted as if he knew his stuff, as if he were better qualified than many of the men who had been called off the spare board the past weeks.

The needle of the gage crawled around when O'Rourke tested his water pump. Satisfied at the way the water rose in the glass, he remarked, "Everything's okay as far as I'm concerned."

Jake's grim face rendered no betrayal of approval. He gave no reply but the blinking green orb on the switchstand beckoned him to proceed. After a brief hesitation, he eased open the latch. Steam gushed from the cylinder cocks with a mad hiss and the big engine went into a crawl.

For half a mile they went up through the yards cautiously until they received a highball from the switchman at the crossovers. They pulled up, stopped, waited for the switch to be lined and then backed onto the train. The head brakeman was on hand to make the hitch. "Got sixty-five loads," he called from the ground. "When your air is pumped up, give 'em a shot."

Climbing the ladder on the side of the head car, the shack waited until Jake applied the brakes. With a wide sweeping motion of his lantern above his head he signaled the rear. He caught the same reply and then the release. The raucous brass throat bellowed two quick blasts. All was in readiness for the trip.

Cragdale, where they would deliver the train to the Central was 187 miles away. It was a tortuous grind, for a third of the way was through mountain passes where the grade was steep. Since the system was double-tracked, only a 19 order was necessary. The head brakeman handed

Connors and his fireman saw half a dozen men rush from the shadows toward the train

this to the hogger with the additional information, "Mac's in the buggy. Said he wouldn't be up. He wants you to hit the ball when you get the board."

Jake took the small piece of yellow paper and shoved it into his jumper pocket. Glancing out the front window, he saw the middle board of the home signal turn yellow. The tower had set the route giving the hotshot the right-of-way. As Connors opened the latch he shuddered, wondering what the night would bring to continue the jinx.

A COUPLE of loud snorts rose from the stack, punctuated by the clank of drawbars which softened and died back at the rear of the train. Without a single slip the slack ran out and the long freighter headed into the murk. The engine trembled as a lean dribble of sand was ground beneath the moving wheels. Slowly she pulled out onto the crossovers and into the range of the tower's floodlight.

There Connors witnessed a strange sight. Half a dozen men rushed from the dark corner of the building toward the train. Two of them climbed into the cab while the remainder caught the ladders

at the sides of the head cars. It was Trainmaster Carter, out of breath, who took a place in the back of the engineer. Surveying the occupants of the cab, he leaned low to whisper into the hogger's ear. The other visitor, a holster strapped about his waist, took his stand at the right gangway, and leaning against the tank faced the tallowpot. All the while he kept his right arm firm on his hip.

Young O'Rourke eyed both strangers by quickly shifting his nervous eyes. Straining his ears he heard Jake inquire in a soft breath, "What's going on tonight?"

"Got a reefer packed with furs back in the train," the trainmaster reported tersely. "Just got a tip we might expect trouble." Casting a sly glance toward the left he added, "From what we heard from the engine dispatcher, we might expect it right here on the engine."

Jake stiffened. "On the engine? I don't get yuh."

"Never mind whether you do or not," was the reply. "You just keep 'em rolling. Old Man O'Neil's up the line with his private car and he's roaring mad. Whoever flops on this freight tonight will be looking for a job in the morning."

Jake glanced at his watch. He opened the throttle a few more notches then and they picked up speed. Not once did he look back to see if the others had climbed safely aboard. The train twisted along the main out of the yards like a slithering serpent over a cinder path.

Experience told Jake when his entire train had cleared out onto the straight iron. That instant he yanked the latch to the last notch, pulled the visor of his cap low over his eyes and dropped his head to the level of the arm rest. The wheels spun faster as the cutoff was shortened and the fury at the stack grew soft. Sparks vomited up into the heavens, drifting back over them in heavy clouds and whirling about in the cool night air.

The Berkshire Northern was a tough pike, for the huge, silent mountains resented man's intrusion through their sacred domain. Each night they seemed to put up a bitter fight, resisting every effort of the snorting monsters to climb upward. But every night the hills lost the struggle, the sweating crews in the cabs answered every clash with a victorious blow.

Though the tallowpot was familiar with these grades, the thunder of exhaust made him understand the task at hand. With keen attention he adjusted his jets and regulated the stoker valve, watching the coal as the worm drew it back and keeping his eyes peeled for foreign substances that might jam at the crusher. That was the important thing. If a piece of steel or tough slag fouled, it might mean a failure. The kid was uneasy as he labored.

It was a strange tension that gripped the cab that night. As the big engine trembled and rocked on the curves, crafty eyes shifted with each lurch. The man at the gangway kept his eyes glued on the tallowpot like some hungry beast stalking its prey. Even Jake was anxious though things were running smooth. Being a low-water man, he cautioned the fireman about his water. "A half glass is enough," he called. "You got to keep the steam dry to make these grades."

O'Rourke acknowledged the advice by waving a gloved hand and then shifting his attention quickly back to the revolving worm. He had to be careful of what entered the trough for the engine was steaming free. As far as Childwold Creek, everything was fine, but there they began to hit the rugged grades. Jake dropped his lever a notch at a time until it was almost full stroke. His eagle eyes keenly observed the steam gage with the needle glued to the mark and the water in the glass as it bobbed gracefully. Jake nodded approval and smiled. "We're going to make it tonight," he muttered with assurance. "This kid's doing a real job."

"Don't talk too fast," warned the trainmaster. "The night's got a long ways to go."

As the speeding freighter hit a curve, the flanges shrieked. The coal doors were now open and the tallowpot had two slides pulled back. The lurch shifted some of

the packed coal and it fell like a small landslide. Among the lumps the kid saw a bar of heavy steel slip into the worm. Leaping quickly to extricate it before it became wedged in the crusher, he had hardly stooped over when a blow caught him on the side of the jaw.

"Get back on that seat!" ordered the deputy at the gangway. "There'll be no funny business on this engine tonight."

The steel bar caught, twisted with shrill harshness and coal fell atop coal, piling high until the worm and its prisoner were hidden.

"You fool!" cried the kid in anger. "Now see what you've done."

IN A FLASH the fireman closed his stoker valve, pulled up his reverse handle and then gave the stoker engine a little steam. It wouldn't budge. He repeated the attempt and again failed. The stoker was out of commission.

There was only one thing to do now and the kid lost little time. He pushed back his slides to make a smooth deck, and grabbing the scoop, he went to work. Nervous beads of sweat already on his brown, he straightened his back for an instant and faced the engineer.

"Don't blame me for this," he cried. "I saw it coming. That damned fool . . ." He went back to work without finishing.

It takes a good man to feed the hungry maw of a stoker engine by hand, and at the moment Jake felt they were licked. With biting anger, he turned on the trainmaster. "If we fall down tonight, you'll be to blame. The kid was doing a good job and he knew there was something wrong. You better . . ."

Carter cut him short. "You handle the throttle and keep your mouth closed. We know what we're doing."

The steam began to falter, despite the fact that the kid was slamming coal through the open door onto the distributor plate with terrible fury. Testing his gage cocks, Jake saw he had water to give away. "Shut off the gun," he shouted. "We won't die without a fight." Then

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he yanked his lever back a notch to save all the steam he could.

The bellow at the stack softened and the train slowed on the grade. Carter grew uneasy, rubbing his white handkerchief across his damp face more and more often. Jake heard him swear under his breath. As one eye followed the curving track and the other watched the lad on deck, he swore too. The jinx still hovered, as it had since the job began.

But in less than a train-length the hogger changed his tune. The needle of the gage began to dance, to climb upward. The kid opened up the water and the needle still rose. Jake shook his head in disbelief as he kicked his lever to the lowest position. "He's going to keep her hot," he said to himself. "I'll be damned if he ain't."

Young O'Rourke worked like a machine. His swing was rhythmic, his thin face ghostlike in the blinding glare of the open door. Sweat oozed from every inch of his tiring frame. As it ran down from beneath his cap, he brushed it away with sooty glove. Soon his face was smeared to a shiny blackness that reflected the white-hot rays like a mirror.

Jake Connors always admired spunk. The hard lines of his face softened as he noted that the kid was tiring and slowing down in the struggle. "You're doing fine." he encouraged. "Another half hour and we'll be at the summit. After that it will be easy."

"Another half . . ." O'Rourke realized he was talking aloud and he cut off his words abruptly. A half hour! The words scorched his mind like a branding iron. A half mile maybe, but never a half hour. He couldn't last that long. No man could.

They struck a damp spot in a cut of rock and the old girl lost her footing. Jake slammed home the throttle and opened the sand. The drivers set back to a steady whirl without dropping a bit of speed. The tallowpot's legs weakened and he struggled to the gangway, setting his parched face into the breeze. He filled his lungs with the cool freshness and it brought some relief. Then he returned to the deck and continued his shoveling. But the muscles of his back tightened into solid knots that wrenched with every move.

The kid lost track of time. Minutes were like hours. Each time his foot struck the firedoor pedal the scoop of coal grew heavier. Once, like a battered fighter in the ring, he went down to his knees but he caught himself quickly and straightened up. Seeing the grim face of the hogger watching him, he forced a smile and said hoarsely. "Rough track here. Guess I'll have to watch my step."

As they crawled through the granite ledge two miles from the summit the steam lagged badly—as did the kid's laboring movements. He was completely spent. Connors called him to his side. "I haven't handled a scoop for years," he said, "but you're all in. Here, let me take the shovel." They were the first soft words Jake had uttered in a long time.

The tension on the engine was raw. The head brakeman, just back to work after a serious accident, jumped to the deck. Taking the scoop from the kids hand he helped him to his seat. O'Rourke fell back and suddenly things went dark.

JAKE CONNORS could never understand how they cleared the hump. His water was gone in the glass and the steam had fallen more than 50 pounds but the big engine staggered on. As the pilot nosed over the crest, pounding at a snail's pace, O'Rourke came to. He brushed his hand over his eyes to see Jake fumbling with his gage cocks. They were still moving, picking up speed as they headed for the valley.

Carter glanced at his watch. "We're only eight minutes late," he said cheerfully. "You ought to be able to make that up Jake." But looking across the cab, the TM saw the fireman stand up with renewed vigor and a vague uneasiness possessed him.

The long train rolled faster and faster with every turn of the wheels. Water rose

in the glass and the strong blower revived the steam. O'Rourke yanked back the stoker slides, cleared the coal around the worm and for several minutes mauled away at the twisted steel bar. The strangers to the cab watched his every move.

The lad reversed the worm and the bar loosened. He struck it hard and it went free. Showing it to Jake, he remarked, "There it is. Take a last look." He pitched it out into the darkness.

Carter was greatly relieved. "That was a swell job, Jake. If we don't bust a wheel or burn off a journal, we might still make the time tonight."

Despite the happy choice of words, the brasshat's voice had a pessimistic ring. The engineer sat stiffly, eyes focused straight ahead. His lips curled and he spat into the rushing wind.

"Swell job!" he muttered. "Me? Give the kid the credit. That's where it belongs."

"Yeah, but maybe he has a good reason for working so hard. This trip ain't over yet. We'll wait till we get to Cragville before we hand him any bouquets."

Jake Connors had the reputation of being cautious on mountain grades, but now he sidetracked safety to give speed the block. It looked as if he were going to make up all the time lost before he hit the valley. Not once did he touch his brakes. He let the train roll with fury.

The freight roared through the canyons where the clanking of rods struck solid granite walls which flung the racket back into the cab. The twin ribbons of steel shone beneath the headlight's glare and then were lost on a curve. The trainmaster gripped the side of the cab and closed his eyes. There came a series of severe lurches and heavy blows as the drivers bit the rails. They were on a high bank with the dark, swift-flowing river below.

Jake's steel nerve never quivered. He maintained his speed with a light throttle when they reached the flats. O'Rourke watched his every move, keeping his steam high when he twisted his valve, bringing the stoker out of its trance.

As the track swung sharply to the left and into a forest of dense pine, the river disappeared. After a few miles the timber fell away and open fields stretched as far as the eyes could see. The speed was high, the signals green and a crossing marker, like a lone gravestone, was drawn into the powerful cone of light. Jake reached for his whistle cord. *Whaaa-whaaa-wha-wha!* It was the last crossing to Cragdale.

Far ahead Jake saw a light as if a car were crossing the tracks. Carter noticed it too and was about to pass a remark when the brakes went into emergency. Everyone in the cab braced himself, fearing a break-in-two. Jake quickly lapped his brake valve to save his air. The train came to a brutal stop amid the grinding of steel against steel.

"Feels like a busted hose!" cried the tallowpot. He grasped a wrench from the tray and started for the gangway. For the second time that night a gun dug into his guts and a harsh voice ordered, "Get back onto your seat and make it snappy!"

THE KID threw his hands to his side in a helpless gesture. *"Now* what's wrong?" he cried.

"As if you didn't know?" the railroad bull snarled.

The engineer spun about to face the occupants of the cab. "This job is a hoodoo, if there ever was one." And he let loose a string of oaths.

The safety pop exploded in the still night. The moon had risen to mid-heavens, and the open plains were clear and bright. The air pumps ceased their rapid panting and for a brief moment there was a lull. Suddenly from back along the train there came a sharp volley of shots.

Jake strained his eyes toward the rear. Carter ran to the gangway. "It's a holdup!" he shouted in excitement.

"A holdup?" echoed the kid. He too rushed to Jake's side, thrusting out his head to see what was happening.

"Get back and sit down!" ordered the cop, giving O'Rourke a shove into his

seat. "You know what's going on without looking back."

"Me? What do I know?" His voice rang with amazement.

The engine had stopped but a few car-lengths from the crossing. While the firing continued back near the buggy, two men approached from the front running beside the embankment. "Look!" cried Carter in alarm.

The cop took a hasty squint. "You watch that kid!" he yelled to Carter and pulling his gun swung out onto the running board.

The beam of the headlight shone with brilliance, blinding the two men approaching the engine on the run. They were an easy target, and the cop drew aim and fired. One of the men slumped on the tracks while the other ducked quickly, attempting to crawl into the shadows. Instantly another shot rang out and before its echo had died, the second intruder had plunged headlong down the soft cinder embankment.

The bull returned, eager to keep the declared leader of the gang under control. There he found the fireman frozen to his seat. A terrible hush surrounded the men as they waited. Undoubtedly the robbers had broken an air hose somewhere behind and the train crew would be searching for it. Then it came, the signal that things were back to normal.

"They've got the leak," exclaimed the hogger. "My air's coming back." He twisted his brake valve into full release and the trainline needle climbed upward.

Jake Connors glanced down the freight when he heard footsteps hurriedly pounding the cinders. It was the sheriff, coming to the engine to complete his roundup of criminals. At his heels was the head brakeman who had run back during the shooting.

"We got your gang," snapped the sheriff, his eyes piercing those of O'Rourke. "And don't you make a false move or you'll get it too." He took a place in back of the kid standing on the smooth apron.

The brakeman spoke to Jake. "Mac said to get going when you got a highball."

Carter noted the time. "Who's going to fire the rest of the way?" he demanded, looking carefully at no one.

The kid eyed Jake. "I'm firing the rest of the trip, and why not? You men have me all wrong."

"Sure we got you wrong," spoke the cop sarcastically. "It happened to turn out that way."

From the rear came the swing of a lantern. Jake's whistle replied. The steam had dropped a bit and the tallowpot turned on his stoker. "Let's get going," ordered the trainmaster. "Maybe we can break the jinx yet."

The remainder of the trip was a wild ride. Jake kept his throttle out to the last notch while the kid on the left kept the pops singing. There were times when Carter thought the hogger was out of his mind, for the flanges screamed as if from pain when they hit the curves. But Carter never complained. With the General Manager O'Neil up the line it was best to take the chance.

Yet it was with great relief that they caught the distant signal at Cragdale. When Jake rolled them in for the final stop at the depot, the trainmaster glanced at his watch. His drawn face relaxed into a broad smile. "That does the trick. We've broken the jinx with all that has happened."

THE SHERIFF and the special agent stepped up and each took an arm of the fireman. "Come on back to the office," was the order. "They're waiting for us up there."

As they led the kid to the gangway, a surge of sympathy rose up in the engineer. "Too bad," he muttered half aloud. "You got the makings of a real engineman if you'd go straight. I'm awful sorry, lad. I wouldn't mind having you for my regular partner."

O'Rourke returned the compliment with a thin smile. "Thanks, Mr. Connors, thanks." He lowered himself to the cinders.

The platform at the depot was alive with uniformed men who'd been notified

as to what to expect. Across the tracks on a spur stood the general manager's private car, its bright lights shining through clean windows. When they entered the dispatcher's office, the place was packed. A doctor was working on the engine-house foreman, wrapping his head with heavy bandages.

Burns spotted the kid. "That's him," he pointed. "Thought you were smart, hey," he snarled. But his fists doubled into heavy knots as an arrow of pain shot through his tired frame and he slumped back into his chair.

The smeared face of the fireman was serious. "Mr. Burns," he pleaded, "I'm not one of the gang who tried to rob the train. I'm a plain fireman, and I want to stay on this road. You know, Mr. Burns, I probably saved your life."

"Saved my life!" The voice rose high and the doctor was pushed aside.

"Sure," said O'Rourke. "I saw them slug you when you accidentally dropped onto them back in the yards. I watched them throw you into the car and figured they were afraid to leave you there since you might send out a warning. I wanted to notify the connie or even your dispatcher only I knew they had no reason to trust me. I wanted to fire the job and at the same time to catch this gang, so I ran to the phone in the enginemen's room and called the police."

The man with the gold badge stepped up. "You made the call? I don't believe a word of it. Just what did you say on that call."

The fireman looked a bit uneasy. "I was excited. I just don't remember now," he said hesitantly. "One thing I did mention was that Burns was in a car about a dozen from the rear."

The sheriff was perplexed. His eyes were glued on the kid's, whose answer was a steady gaze. Then he turned to the two handcuffed yeggs who'd been brought in by the officers. "Is this bird one of the gang?"

Stony-faced, the seasoned bandits gave

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no reply. To the men in the room this was an admission of guilt.

At that moment the general manager threw open the door and entered, out of breath. His small, wiry frame was alive with excitement. "You did a swell job," O'Neil remarked to the trainmaster. "I think you've broken the jinx at last. But tell me, how did you get wise to the hold-up?"

Pride and uneasiness fought for control of Carter's face. "We got a strange telephone call," he replied, "and so took no chances. We caught them off guard."

The Old Man nodded approvingly. "Who made the call?"

"This fireman here is one of the gang," Carter said sarcastically. "But he's trying to sell us the idea he did."

The sooty face of the fireman dropped and his stained hand went to his face in an attempt to hide it. The official stared at O'Rourke for a long moment and then he walked across the room and yanked away the hand that was concealing the boy's features. The crowd sensed the tension that electrified the room.

As he examined the stained face before him, the GM grew pale. He seemed fighting for breath in that moment, and when he found his voice it was heavy with emotion. "Danny! Danny! *You* fired this job tonight?"

In the silence that followed Carter, Burns and the special agents looked at each other in amazement. The Old Man had his arm around the fireman's shoulders now, hugging him, and to all appearances the so-called robber must be the general manager's "blacksheep" son.

"I never thought you'd do what you did, Dan," O'Neil was saying. "Where've you been this past year? We've been searching for you everywhere, son. I think your mother has just about given you up for dead."

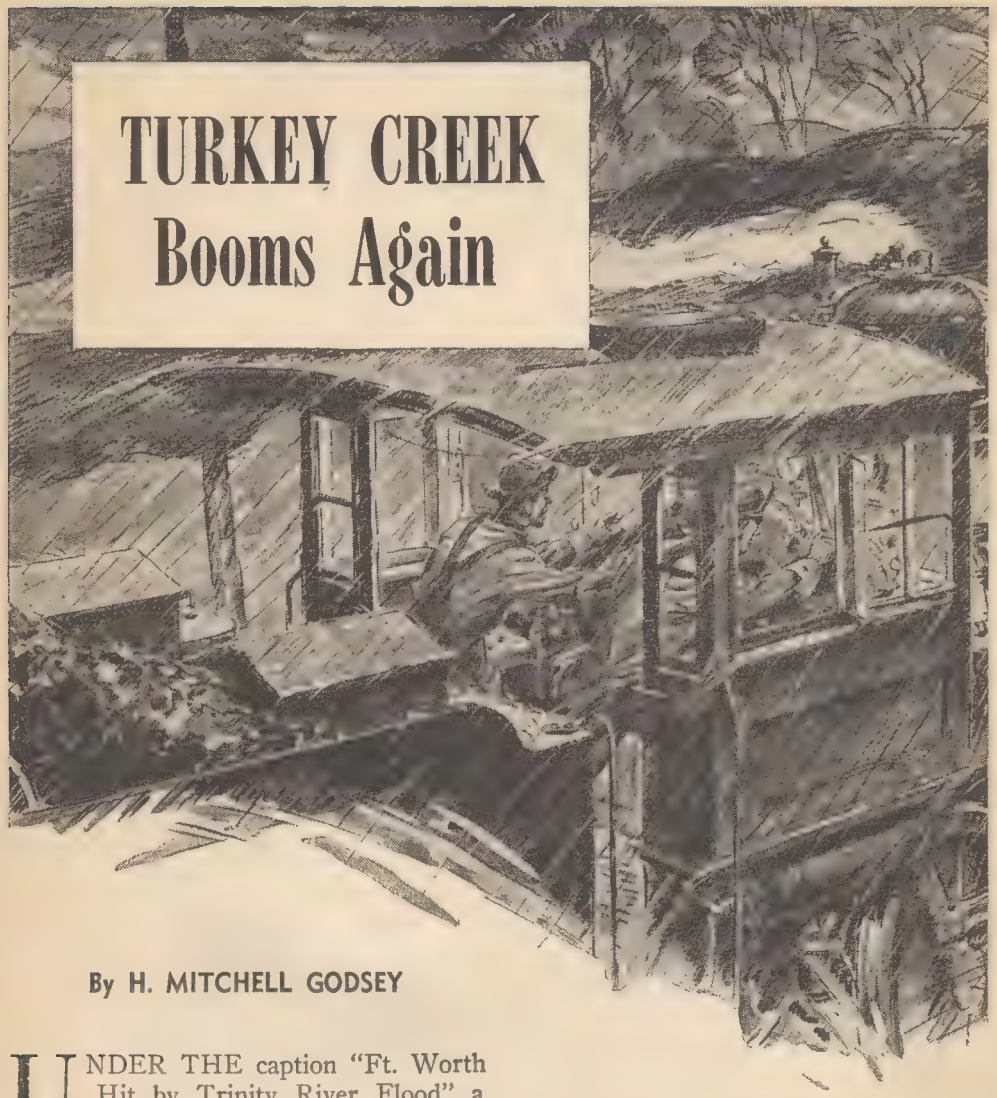
The kid's voice was low. "I'm sorry, Dad, but I just had to run away from college. I couldn't stand it any longer. Railroading's in my blood, same as it was in yours years ago. I won't go back to school. If you force me to, I'll run away again. I want to stay railroading." His voice was firm but it rose dangerously high. The weariness of the night's work and the strain of the events that followed were proving too much for him.

The Old Man understood. "Okay, Dan, we'll do it your way. Work never hurt any man, so if that's what you want, you can come up the hard way. However, let's talk about that later. Right now we're going over to my car and make a call. Maybe your mother won't be happy when she hears your voice!"

Well, it seems like that hectic night with young O'Rourke—or perhaps I should say young O'Neil—in the cab was just what was needed to blast the jinx off the Berkshire Northern. Last I heard Jake Connors and a fireman called O'Neil were stretching an on-time record for fast freight into railroad history up in New England.

"Hold it, Pop! These things are no longer adjusted at trainmen's level!"

TURKEY CREEK Booms Again



By H. MITCHELL GODSEY

UNDER THE caption "Ft. Worth Hit by Trinity River Flood" a press dispatch dated May 26, 1949 stated: "Seven miles east of Cleburne (Texas) a Gulf, Colorado & Santa Fe freight ran into a washout and plunged into swirling Turkey Creek. The engine and tender and five of 46 cars overturned, but the crew escaped injury. The flood marooned them on their piled-up train for hours."

Forty years ago—around 1909, as I recall it—an engine crew, on a passenger train this time, was not so lucky. Ol' Turkey Creek washed the two men out of the cab of their overturned locomotive and next day they were found many yards away, drowned. Fate was kind, however, to still another engineer and fireman who might have died in their place had the train on which they were following been on time. These two barely escaped after a joust with the floodwaters.

Roosters were greeting daylight one spring morning when a telephone dinged. The fireman of the crew fate was to be kind to that day answered sleepily and heard the caller say, "I want you for Nos. 67 and 68 at 6:30."

The instant the speeding engine plowed into the floodwaters, a geyser shot upward

By this he knew that the regular fireman had laid off. It was good news; 300 miles at passenger fireman's pay all in one day was not to be sneezed at. He was fighting the extra board with only two years' seniority to his credit and the board had been slow moving. It was exciting, too, the crack passenger train would pass up—without even slowing down—all the little towns between Cleburne and Dallas on its way to Paris, Texas.

At Paris, where they would arrive around midday, Pullmans from the mainline Galveston-to-Chicago train would be delivered to the Frisco, which road would whisk them onward to St. Louis. That same afternoon the Frisco would deliver another string of Pullmans southbound for Galveston to the GC&SF. The engine that pulled into Paris at noon, having been turned around, refueled and watered, would head back for Cleburne, pulling this No. 68. At Cleburne these sleepers would be added to the southbound Chicago-to-Galveston Santa Fe mainline limited that night at about ten. No 68 would stop at Dallas long enough to pick up an additional Pullman, and it was important that the latter arrive on time so that the mainline limited would not be delayed.

This was the schedule of the day ahead. In anticipation of the excitement, the

fast time card flashed through the fireman's mind as he bid his mother goodbye, with an assuring promise he'd be back home that night possibly around eleven.

But things happened that night which were not in his mental picture. Before it was over, his mother believed that what she dreaded had occurred: that he was dead. In those days—especially in the Southwest, where many main lines were facetiously referred to as "two streaks of rust," where crossties often rested in dirt rather than rock ballast and steel rails were none too heavy—the occupation of locomotive engineer or fireman was listed as hazardous. To her, it was a shock indeed when he announced that he had given up his nice white-collared office job to don the overalls of a locomotive fireman. To the rest of the family and a lot of his friends it was downright nutty. But the boy knew what he wanted. Health, that he believed the outdoor life would gain for him; maybe later, with the better pay, a college course in engineering which experience with locomotives might go along nicely with when he could call himself mechanical engineer. He had to confess also the lure of locomotive engines themselves.

On that fateful day the Frisco connection was late in arriving. This made No. 68 better than an hour late leaving Paris. As was the custom on such an occasion, in order that the important Dallas Pullman would not be delayed, a "stub" was dispatched from Cleburne during the afternoon to go to Dallas to pick up the Pullman so that it could be delivered to the mainliner on time. This was a short train consisting of an engine, a combination baggage-and-mailcar and one coach, the latter to accommodate any coach passengers who wished to go along.

The engineer on Second No. 68 was an experienced and skillful oldtimer. Conditions were favorable on this particular afternoon, thus Johnny Lee was able to pick up quite a bit of time so that on leaving Dallas he was not far behind the "stub," First 68 according to railroad rules. Lee set out to close up some of their distance apart over the remaining miles. It was to be quite a race.

UGLY BLACK clouds and a great electric display in the growing darkness could be seen in the distance toward the southwest where Engineer Lee was headed as the train pulled away from Dallas. As the miles clipped away under him, it was obvious he was about to meet a storm headlong. As he came nearer the clouds grew more threatening. On reaching the halfway point, the town of Midlothian, the engine crew realized it had entered the storm zone. A great downpour of rain was driven against them by a stiff wind. An almost constant flare of lightning vied with their electric headlight, revealing a landscape rapidly turning into vast inland lakes.

The countryside from there on to Alvarado, the last town before reaching Cleburne, is more or less flat, rich farmland. As the train sped on and on less of it could be seen. Now and then water poured over the track in places. At first these were just small, shallow puddles. But as the train clattered on at a little better than regular speed, in the engineer's effort to pick up just a little more time, they were growing deeper and wider. A deeper stretch of water encountered by the cowcatcher would send up great geysers as it knifed through. Then at last the puddles began to grow into small lakes, at times the track could not be seen for perhaps 50 to 100 yards. Through the deeper flood areas the train caused huge columns to spout straight upward and over the top of the headlight and smokestack. These waves broke with great splashes against the top of the boiler as far back as the roof of the cab.

The wind was coming from the right-hand side so that the rain slanted straight across the top of the boiler toward the left. The boiler and its steam dome, high and close up to the cab, screened the left front cab window on the fireman's side, keeping the rain from pelting against it so that he could see clearly far down the track, the gleam of the headlight cutting

through the slanting rain. Although Johnny Lee was known to be a good time-maker, he was also considered a most careful hogger. For this reason it was difficult for his tallowpot to comprehend this seemingly reckless performance.

The situation was obviously very dangerous, and growing more so by the minute. In this fireman's limited experience he knew about water-soaked, softened roadbeds, of rushing waters leaving rails and crossties suspended in mid-air or lifted neatly over to one side. Visions of an overturned engine and cars crowded with human beings raced before him.

But a two-year recruit extra fireman hesitates to tell an old head like Lee his business. The term "back-seat driver" was not known in those days, but that was the general idea anyway and the tallowpot was reluctant to risk a rebuke. Yet after what seemed hours of mental agony and outright fright, he suddenly realized that the rain was pelting the windows on the engineer's side and possibly the hogger could not see outside very well, although he peered ahead intently all the while. In desperation, over the rattle and din of the laboring locomotive, he yelled, "Say! Can you see out over there?"

"Naw," came the answer. "Can't you?"

Instead of answering that, the fireman gave a wildly beckoning wave of the arm. "Come over here!" he hollered. Johnny Lee scrambled across the pit or area between the two sides of the cab and peered anxiously out over the fireman's head. At that instant the engine plowed through one of the longest and deepest stretches of water covering the tracks, and the daddy of all geysers shot high upward and banged down against the top of the boiler. Leaping back to his side, Lee grabbed the throttle with one hand and slammed the airbrake valve with the other, the latter with almost an emergency bang.

From then on all thoughts of time-making were dismissed. With skill won by long years' of experience, the old-timer kept the train barely moving. He spent a large part of his time crouched, half-standing, on the fireman's side watching over the latter's head. Great pools of water were approached and passed through with utmost caution. A quick twist of the airbrake valve would have brought the whole train to a dead stop if required.

Both crewmen were pretty well scared over what might have happened. Explanations revealed that each thought the other could see. The fireman got one bit of advice he never forgot. "Don't *ever* do that again, kid," the hogger warned. "Sing out if there's anything you think looks dangerous."

Engineer Lee could be doubly excused for his supposed recklessness. Electric headlights were still an innovation. It hadn't been so very long since he had had to make time behind the oil-lamp headlights on dark nights, when for miles he couldn't see ahead for much

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more than 50 feet. So running blind did not disturb him a lot when he thought another pair of good eyes was on the job.

By the time Alvarado was reached the rain had almost ceased. It was then that this oldtimer's experience came to the fore. He spoke to the dispatcher at Cleburne over the wire, demanding an escort through Turkey Creek bottoms. By the time a crew of sectionmen on a handcar had been rounded up to go out ahead of the train it was midnight.

This section crew proceeding a few hundred yards ahead of the train did not have to pump the speeder very far. After three miles the engine pulled up to where they had stopped. The gleam of the headlight showed that more than 200 yards of track had been lifted cleanly—rails and crossties intact—off the dump and deposited in the ditch alongside by waters that had already subsided by the time they arrived. And Turkey Creek was some considerable distance beyond.

The train had to be backed up to Alvarado. There arrangements were made to switch it over to the Missouri, Kansas & Texas and detour it via the Katy to Ft. Worth where it once again was placed on Santa Fe trackage. Second No. 68 rode the main line of that road and then proceeded to Cleburne. This sudden change of route, however, took so much time that it was daylight again before the train finally returned to its terminal.

It was only then that the crew learned that the engine of First 68 had overturned in Turkey Creek waters and Engineer Alma Long and Fireman Stalcup had both been lost. At first only part of that story reached the mother of the young fireman on the regular train and for hours she grieved. It seemed an eternity before she discovered that her boy was safe.

As the fireman who escaped, I'm still grateful for my good fortune and still hoping my luck will hold. I guess the crew of the freighter marooned in last year's flood shares my feelings. I know I share their's.

"Yeah, I know just how you feel!"

Injun Bury 'um Deep

By HAROLD L. JOHNSTON

WHEN THE DESERT breeze, coming through the San Gorgonio pass, hits Whitewater station on the line of the Espee it is making miles per hour. The sand-blasted fence posts and telegraph poles will bear mute evidence to the truth of this statement. When this so-called zephyr suddenly stops blowing the silence becomes depressing. This happened once to me while I was telegrapher at Whitewater. It was late in the summer of 1909. To the northwest thunderheads billowed high into the blue. The *Golden State Limited* had just crawled out of sight in the pass to the west when the wind died down. The drifting sand and small pebbles came to rest. It seemed as if all the desert had stopped breathing. I stepped outside the little yellow double-roofed depot with its long windbreak running along the west side and looked at the thunderheads. I thought what a swell picture they would make and was starting inside for my camera when I heard the roaring of water. In a few minutes a solid sheet of it was bearing down on the tracks about a mile west of the depot. There had been a cloudburst, and it was a big one.

I dashed inside and notified the train dispatcher. His first question: "Where are the section men?"

"They are west of the water," I told him.

"Perhaps you had better lock up the place, pull in your train order boards and go see what the damage is. Hurry back and let us know."

"OK," I replied. While I was locking up, I heard the dispatcher putting out orders protecting the track from east and west. Glad to get away from the office I started running down the track. The roaring was louder now and minutes later I saw what was happening. A boiling torrent of sand-filled, muddy water was pouring over the tracks for a distance of six hundred yards. The flood came to within 30 feet of where I stopped and then receded into the wash on the south side of the track, leaving ties and rails suspended three feet above the roadbed. I made my way over what was left of the track, and on the far west side Section Foreman Reily came chugging up on the Casey Jones. He inspected the tracks and we managed to push the heavy motor car to the east end, left two men as flagmen and tore out for the depot where Reily reported the damage.

Two extra gangs were started, one from Colton and the other from Indio. A train of riprap and gravel was ordered from Declez and one from Pilot Knob.

About 10 p.m. I was relieved by Assistant Superintendent Sloan and sent to bed. Whitewater was going to be a busy place for a few days and I needed my rest.

The extra gang from Indio was spotted on the passing track when I woke up in the morning. I went down to the kitchen car for my breakfast and saw that it was manned by a little dried up Chinese and that the extra gang was made up of Yuma Indians pressed into service. They were bossed by Dan Griffin, who sat in the dining-car and watched the braves shovel in the grub as if they had never had a square meal before.

Dan wore a six-shooter. I wondered why it was necessary. I found out the next afternoon.

Griffin and the other bosses drove their men hard. All day and half the night they

Getting chased out of the chow car by the Chinese cook was a loss of face which those crazy Yuma braves blamed on the only two white men around

yelled at the Indians and Mexicans. The wheels must start turning. Passenger and freight trains were being detoured and detouring costs money. The men were getting short-tempered and harder to handle every hour.

On the afternoon of the second day I was looking out the window toward the west. Dan had come up to file telegrams regarding the work and materials needed and a plea for more men so as to ease up on the poor devils who were ready to fall in their tracks. I saw a body of 20 or 30 Indians coming up alongside the outfit cars. They dashed into the dining-car. Bedlam broke loose. It was not chow time by an hour yet. I could hear the little Chink screeching and yelling at the top of his voice. There was the sound of tramping feet and the Indians came tumbling out of the diner. The little cook had a cleaver in one hand and a long butcher knife in the other and he was sparing nobody but laid on heavily until the car was clear. The Indians held a powwow and one of them pointed toward the depot. They came in a body to the east side of the office and started digging a deep hole in the sand. Dan Griffin's face turned white.

"What are they doing?" I asked. I was scared stiff.

"They are digging our graves," he said, hitching his six-gun a little forward.

"W-what for?"

"They have it figured out that it is our fault that the Chink chased them out of the diner. Have you a gun?"

You bet I had a gun. I had a .38 Colt, a Winchester 30-30 carbine, a Remington pump 12-gage and a mean looking hunting knife. I brought the whole works into the office and strapped on the Colt.

"L-let 'em c-come," I choked. Shall I lock all the doors?"

"That wouldn't do any good," replied Griffin, twirling the cylinder of his six-gun. "Leave the office door open. Let them see we are not afraid."

We watched those warriors work for ten minutes or so while all the stories about Indians we had read came back to us with terrible impact. Cold sweat ran down my face and inside my shirt. At last the hole was finished and they held another powwow. After a lot of noisy jangling they selected a young brave who wore a red ribbon tied around his head. This young fellow also had two dashes of yellow ochre on each cheek and narrow yellow ribbons tied to each forearm. Evidently he had been trying to make some impression on his girlfriend at Yuma when the Espee had grabbed him for emergency service. He started for the office door. He came up the three steps folded his arms and looked at me.

"Come," he said:

"W-what f-for?" I asked.

"Come. Me show." He pointed in the general direction of the hole, then said: "Me bury you heap deep."

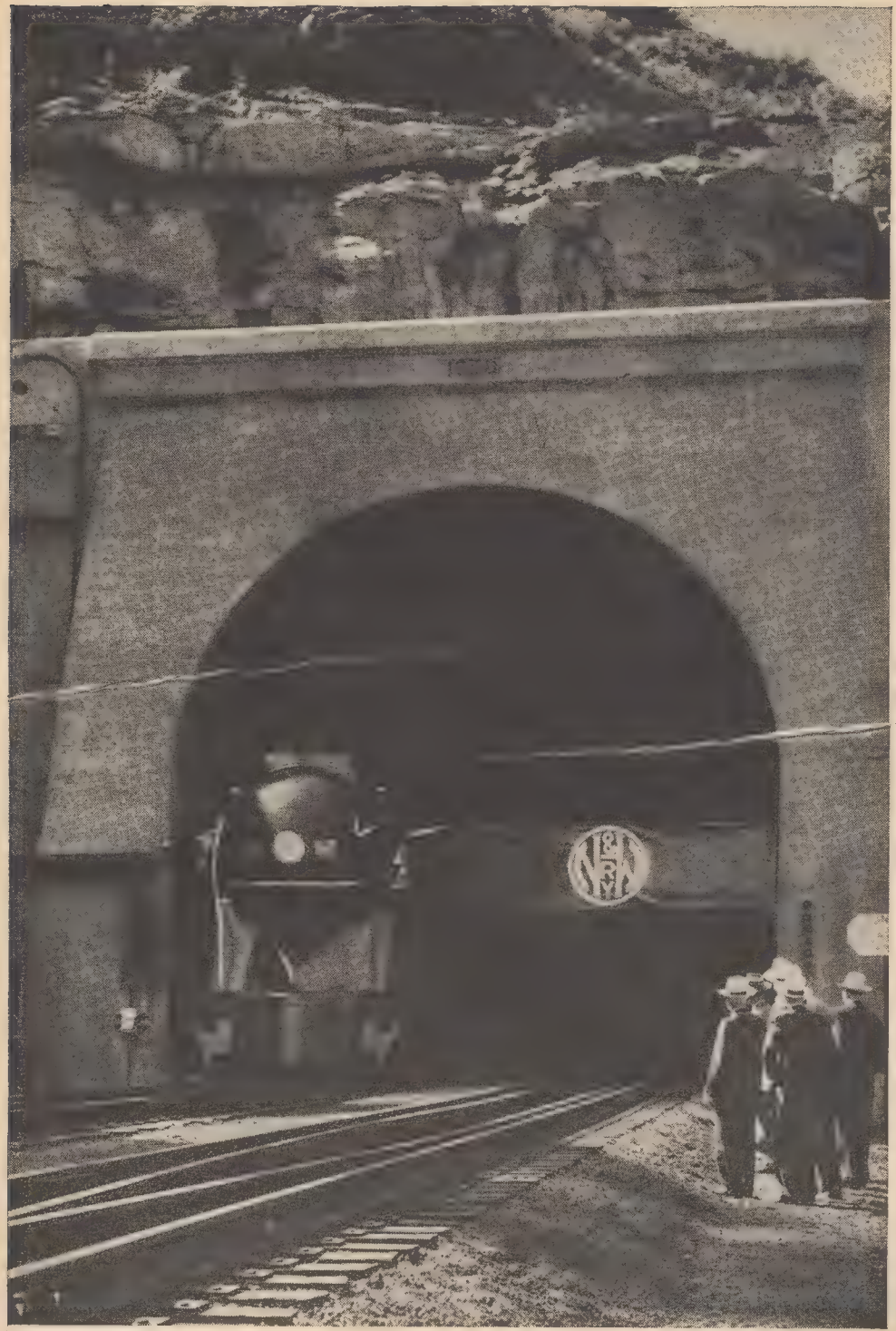
I got out of the office chair and walked over to the young brave. As soon as I got close he evidently took it for granted that I would obey. He turned, once more folded his arms across his chest and started proudly down the steps. I raised my right foot and kicked and shoved with all my might. He landed with a terrific thump face down in the sand, his breath gone and his ego deflated.

"Now, you played hell," yelled Griffin pulling the six-gun and running to the office door.

"I couldn't resist it," I gasped. I came back getting ready for the worst. It was then that we learned something about an Indian's sense of humor. Did they give a war whoop and mow us down? They did not. They doubled up and laughed at that youngster until the tears came. They thought it very funny that a slim little runt like me could upset that young brave's applecart so suddenly.

While the laughter was going on the jangling of the gong at the dining-car announcing chow was very welcome music. We walked into the crowd of hilarious braves and yelled "Go eat! Go eat! Then come back and fill up that hole."

The leader laughed, shrugged a shoulder and led the way to the chow car.



Norfolk & Western

Important event of 1950 was opening of N&W's new Elkhorn tunnel, part of line relocation project between Lick Branch and Cooper, W. Va. Photo was taken at instant *Powhatan Arrow* broke ceremonial ribbon at east portal of 7110-foot, double-tracked bore

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Proof that a road famous for its fast freights is passenger wise, too, is the twin unit Diesel above. Nickel Plate net earnings for 1949 were not far behind 1948's $15 million, and figures for 1950 should be even better, with NYC&StL's leasing of Wheeling & Lake Erie

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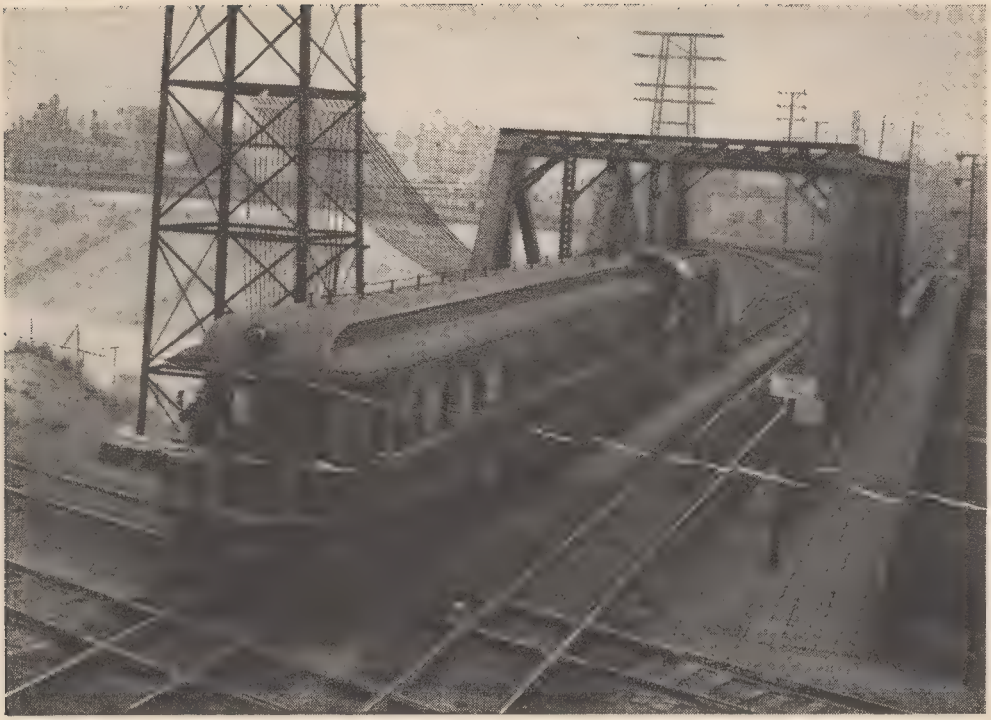

H. L. Kelso

Goofiest railroad movement of 1950 converged on Los Angeles bearing Shriner "Temples" from all over the country. Railroad men were fezzed up with it. Rolling stock on which the boys played hookah included fine specimens like green and gold GM&O car above

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Henry Fishler

Santa Fe motive power men so far are not joining the mad scramble for complete Dieselization, still putting their faith in steam giants like the 4-8-4, though in 1950 more 3800- and 3900-class locomotives were scrapped

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D. L. Joslyn

Bell that tolled train-time at Sacramento Depot for 35 years now sits on cab of SP locomotive transfer table, warning when table is moved

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Smoky Mountain Railroad is one of the country's smaller going concerns. Mixed train runs twice daily between Sevierville and Knoxville, Tenn. where pike connects with the Southern

H. Reid

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SOUTHERN PACIFIC: Jan. 12, 13, 16*, 17, 22, 24, 26, 28, 31, 32, 43, 45, 46, 47, 73-74, 98, 123, 127, 129*; Feb. 25*, 63, 132*-133, 143*; Mar. 60*, 63, 146; Apr. 23, 34*, 35, 41, 45, 65*, 74, 76, 122*, 129; May 134, 135, 140*, 144*; June 74, *Roster* (Part I-steam), 92-97*; July *Cover*, 15*, 16*, 20*, 23*, 68, 72-74, *Roster* (Part ii-steam), 98*-101*, 137; Aug. 4*, *Mile-A-Minute Boxcars*, 10*-25, 44*, 47, *Mojave Murals*, 62, 64*, 65*, 66*, 67*, 69*, 70*-71*, 73*, *Roster* (Part III-Diesels), 100*-101*, 124, 146; Sept. 41*, 124, 137; Oct. 42, 43*, 49, *Eucalyptus Boom and Bust*, 74*-79, 127, 128-129*, 133-134, 145; *While the Angel Watched*, Nov. 80-83*, 84-86, 125, 141*, 142*; Dec. 35*, 38, 39*, 41, 43, 45*, 46, 53, 55, 81, 121*, 134

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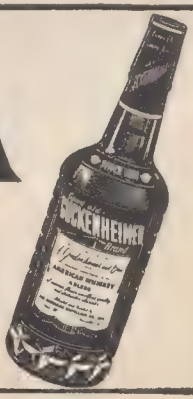

R. H. Wilson

A low sun, striking through smoke-stained glass windows, lights up re-spirited engines in UP steam power temple at Pasco, Wash.

38*, 123, 132-134, 137*; Apr. 16*, 26*, 32*, 76*, 77; May 25*, 28*, 29*, 32*, 33*, 38*, 73, 132*, 141*; June 30*, 45*, 49*, 62, 65*, 89*; July 8*, 36-37*, 51*, 67; Aug. 43*, 79, 123, 130*; Sept. 15*, 21*, 22, 29*, 31*, 38*, 51*, 57*, 131*, 140*; Oct. *Cover,* 18*, 19, 20*, 25*, 56*, 63*; Nov. 28*, 30*, 31*, 37*, 38*, 39*, 43*, 53*, 65*, 83*, 88*, 89*, 97*, 99*, 137*; Dec. 8, 22*, 51*, 54*, 70*, 72*, 73*, 77*, 78*, 79*, 80, 81, 86*, 121, 134

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THE MILWAUKEE ELECTRIC RAILWAY & TRANSPORT: Jan. 87*

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YOUNGSTOWN & SOUTHERN: Dec. 90

John A. Thompson

Snow is nice—on picture post cards. The travelogues say: "As the jack pines throw long shadows across the gleaming snow . . ." UP is more realistic: "It took four days and three rotary plows to open up 41 miles of branchline to our modest yards in West Yellowstone, Mont., western portal of Yellowstone Park"

On the Spot

A BLIZZARD whipping New England one day in 1925 had every train on the New York, New Haven & Hartford Railroad running late. Blinding whiteness kept a group of waiting passengers inside the depot at Bridgeport, Conn. while Stationmaster Peter Hunt and his force worked under pressure. The telegraph operator, James N. Gaffney, 336 Seaview Avenue, Bridgeport, heard a commanding voice say: "Take this telegram, please."

Gaffney recalls: "The gray-haired fellow in a broad sombrero who stood before my window looked like a medicine man from the West. He was, in fact, the late Judge Kenesaw Mountain Landis, czar of big-league baseball, as I noted from the signature to the long telegram he handed me. Judge Landis seemed to be worried. He had arrived at Bridgeport about 11 a.m., enroute to Chicago; but his regular connecting train, No. 79, due at our station 11:07 a.m., was already more than an hour late. Unless he left New York on the *20th Century Limited*

FIDDLETOWN & COPPEROPOLIS RY.

No. 30 No Time to Spare! F&C Hook Gets Set to Hoist Combine from Overtaxed Shoo-fly at Lizard Lake

by Carl Fallberg

early that afternoon he would miss an urgent appointment in Chicago.

"The baseball mogul was going to 'steal home' and I wanted to help him. I sent off his telegram directing the management of a New York hotel to put his baggage on the *Century*. When the train dispatcher reported that No. 79 would reach Grand Central Terminal too late to connect with the *Century*, I checked in *The Official Guide* and found that the New York Central limited would stop at 125th Street, which No. 79 didn't.

"Calling our overworked train dispatcher, Thomas Reading, I told him about the plight of our distinguished traveler and asked him to issue an order stopping No. 79 at 125th Street so the Judge could board the *Century*. That he agreed to do. The Judge was grateful and asked for my name and address. I half expected a season pass to the Yankee Stadium, but instead, a month later, he sent me an autographed baseball with these words written in ink: 'As a traffic director, James N. Gaffney is more dependable than electric power.' I still have that ball, which my children and grandchildren proudly show to their friends."

But the story has an anti-climax. No. 79 was not a steam train, and the blizzard wrecked her overhead electric wires, marooning Judge Landis at Mount Vernon, N.Y. Althought the *Century* stopped at 125th Street, Landis was not there to climb aboard, and thus missed his Chicago appointment.

* * *

JOHN A. THOMPSON'S "Recipe for a Class I Railroad" (November) was interesting to Douglas R. Grace, 1014 St. Roch Street, Montreal, who adds: "Thompson was off the track when he said you could stop at Toronto and Montreal just by riding New York Central rails. As a Montrealer, I know that NYC track ends at Adirondack Junction, some nine miles from the Canadian Pacific's Windsor Street station.

"As for NYC service to Toronto, the latest timetable shows the closest the Central comes to Toronto is Welland, Ontario, 77 miles distant. From Welland to Hamilton the Central trains run on Toronto, Hamilton & Buffalo rails, TH&B being a Central interest. It is 39 miles via CPR from Hamilton to Toronto Union Station. Thompson's error is a minor one, as you can ride NYC equipment to Montreal or Toronto, although not on Central track. And let's have more descriptive articles on America's big roads in digest form."

Editor's note. There'll be plenty of thumbnail sketches of American carriers, large and small, in future consists.

John F. Endler Jr.

In Nay Aug Park, Scranton, Pa. follow the sign to the car, but the car won't take you anywhere because . . .

. . . it's a gravity car, last used 66 years ago. Now 100 years old, it went on pension when only 34

S. Botsko

Methuselah of the Durable and Husky. D&H built Engine 500, a 4-6-0, back in the time of the General Slocum disaster, in 1904. Here she pulls a Carbondale-Scranton local out of the Carbondale station

SANDY, the rail-rabbit pictured by Joe Easley in *Along the Iron Pike* (April), has vanished, William N. Bissell reports. For four years the cottontail was an honored passenger in the caboose of the CPR's London-Windsor way freight, feasting on such delicacies as bananas, fruit cake, cookies and succulent greens. In return, Sandy tried to be helpful. When Conductor A. R. (Sandy) McDonald wrote his wheel reports, the rabbit would offer his bushy tail as a penwiper. Mr. Rabbit's log book showed about 100,000 miles. At length McDonald retired from freight service. His namesake stayed around for a short time, maybe hoping the old skipper would come back. Now the only rail-rabbit ever mentioned in this magazine has gone. He may have answered the call of the wild or been converted into stew. Nobody seems to know.

* * *

MEMORY LANE. "After reading *Railroad Magazine* many years," writes Glen S. Morely, 907 Elmwood Avenue, Evanston, Ill., "I found pleasure in being wafted to my boyhood homeland via Margaret Vollmer's piece on the Canadian Pacific's Kettle Valley Route, 'Skyline Passage' (August '50). I had spent my early days in and around Penticton, B. C., the Okangon Valley divisional point. That article recreates the early 1920s when the Kettle Valley line was our only direct connection with the East or West.

"No wonder the railway was just about the most exciting factor in our lives. We boys knew our engines like today's youngsters know their aircraft. The arrival of any new class of locomotives evoked days of excited speculation and comment.

"We had two passenger trains a day: No. 12 eastbound, due about 8 a.m., and No. 11 westbound, due three hours later. The passenger depot was then located at the CPR wharf on the lake a mile and a quarter from the South Penticton yards, to which it was connected by a single spur track minus even a wye switch. No. 12 ran into the yard, then backed down the long spur to the depot. No. 11 similarly headed down the spur and backed out.

"Saturday's big thrill for us kids was to gather at the station in time for No. 11; then we'd all pile aboard the rear open platform of the observation car and ride her 'head end' out as she backed off to the yard again. The good-natured KV trainmen tolerated our free rides with amusement, but bloody fights ensued when there were too many of us to stand on the rear platform.

"High-stacked *Moguls* of the 3200 series pulled nearly all the freight and

passenger trains. Their shrill single-note whistles could be heard wailing piteously for miles, while their struggles with 29-car ore trains were memorable. On quiet summer days I would sit on the wharf for hours listening to the distant laboring of three, sometimes four, *Moguls* as they tugged, pushed and panted away with an unwieldy load up over a 3000-foot climb eastward out of the valley. An occasional puff or two of black smoke emerging from the pines on the distant mountain top would momentarily proclaim the train.

"Engine No. 3090 had exclusive running rights on the Penticton-Haynes branch. (This was indicated wrongly on the map in Miss Vollmer's article, Haynes being the southern terminus of the Okangan branch; not north of Princeton). I remember how the 3090 wheezed asthmatically with carloads of cantaloupes from Oliver. She rusted away to Locomative Heaven behind the old Penticton roundhouse many years ago.

"I recall the dynamiting of a day coach near Nelson, B.C., when Peter Verdigin, a Dukhobor leader, was dispatched quickly to another world. Three fellow passengers also were killed. The blast destroyed the coach, but the train reached Penticton still trailing the sleeper with a badly shattered vestibule.

"No. 11 plowed into an embankment near Beaverdell in 1924, killing Engineer John Crosby and strewing the cars at crazy angles along the right-of-way. Next year saw the Coquihalla runaway that Miss Vollmer mentioned. Some strange tales grew out of that one. No survivors of the actual pile-up were left to tell the story. A Coquihalla landmark worthy of mention is a group of five tunnels under a mountainside of rock near the lower end of the pass. One has a window knocked out of the side, the overhang being supported by a huge stone column. At this point the turbulent Coquihalla River takes a dive right under the railway and emerges, boiling and foaming, beneath the tunnel mouth—a rare sight indeed!

"The Coquihalla was regarded as a timepiece for seasons. We knew winter had officially set in when the pass was closed and the coast trains were rerouted around it. Just as surely, we greeted spring when good old No. 11 once more nosed in on schedule.

"My latest visit to the Kettle Valley was in 1945 when, as a war-weary soldier returning to Canada after five years of Europe, I took a nostalgic trip westward over the old familiar line. A yellow moon shone brightly on the winter snow that still lay deep around the track. Our train steamed majestically over the height at McCulloch station, more than 3000 feet above the Okangan Valley floor. From that point I gazed at the glittering lights of five valley towns spaced out over a distance of 50 miles. Few railways afford such a breathtaking panorama."

* * *

UNIQUE, perhaps, in railroad history was the case of the Louisville & Nashville freight train on a spur line that for more than a year made regular stops for

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Bob White

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a dog, reports James N. Johnston, RFD 2, Box 161, Clarkesville, Ga. It all started about a year and a half ago when Conductor J. V. Hobbs and his crew found a small mongrel in an L&N boxcar, with all four legs broken and his back injured. Possibly the dog had fallen from a train and been put in the car by someone. They adopted the mutt, named him Hobo, and fixed him a cozy den beneath an overhanging rock. Every day they stopped the train to give him food and fresh water.

As the story spread, people from many states began sending money and food to Hobo. This kept up for about a year. Then one morning a section crew found the little dog dead. They buried his body. The next day the train made its last stop at Hobo's den. Engineer Tommy Hunter tooted a mournful blast, and the train rolled on.

* * *

WITHDRAWAL of many unprofitable branchline trains, according to C. McD. Davis, Atlantic Coast Line president, would mean "virtually no inconvenience to the public and a saving of millions of dollars to the railroads." Davis, testifying before a subcommittee of the Senate Interstate and Foreign Commerce Committee, said the biggest obstacle to such saving was the delay or refusal of state regulatory bodies to permit the withdrawal.

In a 3½-year period the ACL made 17 applications to regulatory boards in the six states in which it operates, asking for the right to cut out certain trains operated at heavy losses. Because of delays or denials on these applications, Davis continued, the ACL lost more than $2 million. Figures show that the Clinchfield, in which the ACL has one-half leasehold interest, is operating daily passenger service between Elkhorn City, Ky. and Spartanburg, S. C. at an annual deficit of more than $260,000.

A recent Nebraska Supreme Court order, overruling the Nebraska State Railway Commission and permitting the Burlington to pull off two unprofitable trains, states: "The record shows that the need for the service provided by those trains has been absorbed by other adequate means of transportation. The little use made of the passenger service offered on trains Nos. 15 and 16, as shown by the record, affords the most convincing proof of this fact. We know of no rule that requires a railroad to maintain the opera-

tion of trains at great loss where the need for such service no longer exists."

We hope everybody's on track after this minor derailment.

* * *

RUNAWAY described by Lovett R. Smith in *On the Spot* (October) has personal interest for Theodore F. H. Zealand, Colonial Hotel, Chicago, who says that in the fall of 1905 he supervised the installation of the Southern Pacific's staff system of operating trains Smith referred to.

"The same stretch of track between Truckee and Rocklin, Calif.," Zealand writes, "has 79 miles of snowsheds. When Mallet locomotives were first put in service on that division, motive-power men soon found that the distance from stack to cab was such that the exhaust steam had time to strike the snowshed roofs and float down in front of the cab, obstructing the engineer's view and subjecting the engine crew to heat from the steam. As the engines were oil-burners, it was not difficult to turn them around and run them backward."

Zealand corrects an error in *On the Spot* (October), page 127: "University of Michigan" should have read, "University of Minnesota."

* * *

SOMETHING NEW in railroading occurred when a circus calliope was mounted on the observation platform of a Western Pacific business car just behind the Diesel locomotive of a special train that took 555 happy boys and girls from Battle Mountain, Nev. to Reno for a Shrine circus. Compressed air from the Diesel's rear windshield wiper powered the noisy calliope. The blaring steam-piano melodies, played by a man garbed as a clown, could be heard two miles ahead of the train and caused quite a commotion as it pulled into various towns.

The train, operated at a nominal fare to satisfy ICC requirements, was furnished by WP, which gave the youngsters free ice cream. Winnemucca Shrine Club paid for the train, box lunches, dinners, soda pop and circus admission.

There would have been 556 children on the train, but nine-year-old Jay Tidwell,

Charles A. Elston

Pennsylvania has its version of the Grand Canyon—Pine Creek Gorge. Bucolic scene on the NYC at Cammal, Pa. Look left closely and you can see Joe fishing. Hey Joe!

riding into Winnemucca on his bicycle, missed the special. Gloom clouded his face until WP arranged for him to go to Reno on the *California Zephyr* as far as Portola and the rest of the way by automobile. C. C. Duck, traveling freight and passenger agent, escorted him. That night a trainload of tired but still happy youngsters returned home bearing turtles, lizards, whips, trumpets—and memories.

* * *

ONE of last year's most interesting engineering feats was the raising of Missouri Pacific bridge No. 2, which spans the Arkansas River at Fort Smith, Ark. The total raise was 5 feet 6 inches and the job was done by company forces without delaying normal traffic movement.

* * *

THE 7000th locomotive built at Crewe, England, puffed sedately out of the works last September 15 while workmen cheered. Numbered 41272, she bears on each side a plaque to commemorate her significance in the history of what a British publicity man calls "the world's best-known railway workshop."

More than 105 years ago Crewe turned out its first engine, the *Columbine,* which burnished the rails for 57 years and is now preserved in the York Railway Museum. In its early days Crewe Works occupied three acres and employed 161 men; today more than 7400 men and women are building and repairing London Midland locomotives in an area of nearly 137 acres. Crewe's 5000th locomotive, the *Coronation,* was built in 1911. Another Crewe engine, the *Coronation,* turned out in 1937, broke speed records by making 114 mph. on a test run from Euston to Crewe that year.

Crewe engine *Queen Empress,* dated 1893, was shown at the Chicago World's Fair the year she was built. Still another famous Crewe product, the *Hardwicke,* now preserved at the works, averaged 67.2 mph. for the 141 miles from Crewe to Carlisle in 1895.

* * *

BECAUSE the *Royal Scot* engine, like others in the same class, has now been fitted with the latest type of taper boiler, she no longer carries her famous Canadian bell on the front end. That trophy has been sent to the York Railway Museum for preservation, along with the

(Continued on page 134)

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nameplate the *Royal Scot* used to flaunt on her smokebox door. The bell was fitted on the *Royal Scot* in 1933 to comply with North American railway practice when she arrived at Montreal for a goodwill tour of Canada and the United States. She was displayed at the Chicago Exposition, traveled more than 11,000 miles on North American rails and was inspected by well over three million people.

* * *

A MODERN TREND in railroading seems to forecast the end of the upper-and-lower-berth type of sleeping car. Several roads, including the Chesapeake & Ohio, have banished it altogether, replacing the old type with streamlined all-bedroom cars. The new-style bed is shaped so that passengers can stand in the room without either raising the bed or opening the door. By day, the bed disappears into the wall, permitting as many as three persons to sit comfortably in the roomette. Another innovation: when a family travels, two bedrooms can be made into one by sliding back the dividing wall.

* * *

EVERY AMERICAN railroad passenger now automatically has a Western Union charge account which enables him to send telegrams enroute, easily and conveniently. The plan avoids the necessity for cash payment. The traveler merely hands his telegram to a member of the train crew for sending at the next stop. He may charge it to his home address, his business charge account, his WU credit card number, or send it collect.

* * *

SHORTEST run of a steam engine in road service on any Class 1 railroad that is known to A. Von Blau, Jr., 1700 West Ave., Waco, Tex., is 1.8 miles on the Cotton Belt. "When train 101 arrives at East Waco," he writes, "they cut off the Diesel passenger engine, then a yard goat brings it to the Waco passenger station. There, as No. 102, it starts out on a new run. A road passenger engine takes it 1.8 miles to East Waco, where it is

coupled onto the same Diesel which brought No. 101 in. Then the train 'sets sail' for Mt. Pleasant, Tex., 194 miles away."

* * *

A CATFISH was worth more than stock in an up-and-coming railroad to W. H. Simmons, now an ex-railroader and retired Southern Methodist pastor, Hapeville, Ga., who wrote in the *Pickens County Progress* of Jasper, Ga.:

"I ran the first train into Pickens County and Jasper, being conductor of the work train nearly three years. I began my service with the Engineer Corps, surveying the road just above Canton, Ga. My train experience started in 1880 while I was living in Canton. On the work train I toiled hard at topbreaking and flatcar running in snow, rain, hail, winter and summer.

"One day I attended a big railroad meeting at Jasper with my best girl and we heard General Phillips say in an impassioned outburst, 'No girl should marry a young man who wouldn't subscribe for stock to build a railroad into this town!' I was afraid that would give my girl an excuse for turning me down, so I subscribed $50 then and there. I didn't have the money, but worked it out by numbering and setting pegs on the survey. Finally I got my certificate of paid-up stock in the Marietta & North Georgia (now the Louisville & Nashville's Atlanta Division).

"Some time afterward, while I was living at Canton, my pal John Coggins and I put a trout line into the river and landed a seven-pound catfish. Both of us wanted to take it home. I was anxious to get it because my brother and another man were to spend the night with me, and I knew the eating power of both. So I bought John out, giving him my railroad stock for his interest in the catfish. I made out a deed for the stock. I think it is recorded in the Cherokee County clerk's office.

"The deal turned out bad for my young wife and myself. Besides losing the M&NG stock, we fed our visitors so much catfish they couldn't travel home by buggy the

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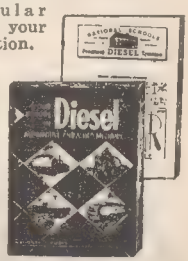

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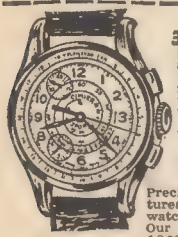

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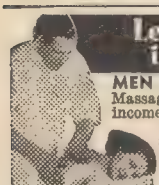

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next day and we had to keep them another night."

* * *

RAILROADERS on the old Lake Erie & Detroit River (now part of the Chesapeake & Ohio's Canadian Division, Pere Marquette District) had to attend church or explain to the superintendent why they didn't. It's part of the story of Norman J. Shuel, retired C&O engineer, St. Thomas, Ont., as told in C&O *Tracks*.

Crews on the Lake Erie & Detroit River runs worked 16 to 22 hours a day, six days a week. On Sundays they had to clean out locomotive boilers and flues at the Walkerville engine house and then go to church. The latter was a must because Superintendent Woolatt was a member of the Walkerville church choir and during the services he would check the congregation over the top of his spectacles. He knew each man by name; woe betide any one he didn't see there.

In 1900, when Shuel was promoted from engine wiper to fireman, the LE&DR was owned by Hiram Walker Distilleries, but in 1902 it was leased by the Pere Marquette. That year Shuel moved over to the right side of the cab. It was lumber country. Many runs were log trains, in the thick forest it was not unusual for several trees a day to fall across the tracks. Crosscut saws and axes were standard equipment in the caboose.

Shuel also recalls the time when an engine crew had to carry umbrellas. On one run the cab had caught fire and burned almost completely. Money was scarce; the cab wasn't rebuilt until four months later, but during those months the hogger and tallowpot had to ride in an open cab, using umbrellas when it rained.

* * *

BACK in 1892, L. H. Rich, now of 79 Syme Street, Sharon, Pa., ran away from school to work on a train when twelve. From then until he retired in 1949 he worked on and around trains: on four roads, everything from a news butcher to a hogger, and emerged unhurt from five

train wrecks. Today, at 71, he has a library of railroad scrapbooks filled with thousands of pictures and railroad clippings. His favorite is a shot of the train on which he had his first job as news butcher 59 years ago.

Rich spends much of his time clipping and pasting items and indexing them. Nothing makes him happier than to get an engine or train picture in the mail from some distant part of the country. This hobby enables him to re-live his long career on the steel rails. By way of diversion, he lays aside his scrapbooks now and then to operate his model railroad layout in the attic. Many cars and the scenery he has made himself. Rich is a railroad man, just as his father and his grandfather were before him.

* * *

TRAINS CHASE MAN. A strange thing happened on New York's city-operated Transit System. Two subway trains of the IRT Division, each with a platform man acting as lookout, stalked Peter Perez, a New Yorker. Perez had become ill on a southbound local in the morning rush, left the train with a policeman to wait for an ambulance at 72nd Street, but disappeared. The local and an express train set out in search of Perez and finally caught up with him running on the tracks at 64th Street. The man was taken to a hospital.

* * *

PULLMAN CAR PORTERS ride a gravy train nowadays compared with 25 or 30 years ago, according to the *New York World-Telegram and Sun*. And they say the switchover came with the formation of the International Brotherhood of Sleeping Car Porters (AFL) in 1925. Louis O. Manson of Chicago, a porter for 35 years, expressed the porters' feelings at the Brotherhood's silver jubilee convention in New York.

Manson said he earned only $27.50 a month when he first donned a train porter's jacket in 1914. Eleven years later this pay was up to $67.50. Now he makes

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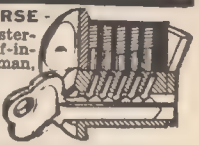

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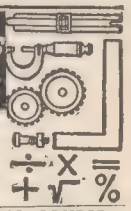

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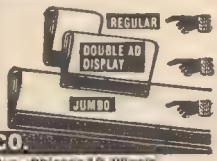

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"And in the old days," he recalled, "there was no limit to your hours. Today I must be paid overtime after 205 hours a month. Gone, too, is the 'voyage to Siberia' that porters dreaded. If a car was sent to the shop or yards in those old days a porter had to stay with it until it arrived there, to protect the equipment. This sounds simple, but once lost in a railroad yard a car might take a week to go a mile. You could sneak out for eats, but not too far or for too long. The car might leave you. In the winter the cars were drained. You'd have to hustle somewhere even for water. I once stayed with a car 24 hours a day a whole week straight.

"In the old days on a long transcontinental run the porters could go to bed only every other night. Nowadays when a train is on a long run, the porter must get a four-hour rest period each night or else be paid for that period. And conductors usually hold upper berths for the porters."

* * *

ADD TO THE LIST of railroad heroines the name of little Marie Merritt, Elmwood Place, Ohio, says Miss Margaret Stevens, Baltimore & Ohio research librarian, Baltimore, Md. The child was running to school, for she was late, when she noticed a broken rail as she hurried along a road beside the B&O tracks. She realized the danger that lay in wait for the next train. She ran back home and breathlessly told her mother what she had found. Her mother telephoned the B&O station agent. In jig time the track was repaired and a train wreck averted.

* * *

MT. UNCOONUNICH'S inclined railroad is no longer operating, despite reports to the contrary," laments Jack Pearl, Route 2, Bradford, Mass. "It is slowly rotting away. Recently, however, new poles have been put up along the right-of-way to carry electricity to the radio station on top as well as current for the now-idle cars. Many new untreated

ties have been bought but not yet placed on the track, because of a disruption of plans for reopening the ancient inclined road." Where's Mt. Uncoonunich?

* * *

RATTLER RIDES RATTLER. As a Louisville & Nashville train was proceeding between Blockers and Kirkland, Ala. some time ago, a rattlesnake two feet long wriggled onto the tender, much to the dismay of Fireman Enoch Fluker.

The serpent was making its way over the coal pile toward the cab when Fluker caught sight of it. There is nothing in the *Book of Rules* that expressly forbids snakes riding there, but Enoch had his own ideas on the subject. He walloped it again and again with his shovel. The reptile tried to retreat, but Engineer R. F. Jacob, coaching from the side lines, suggested, "Throw him into the firebox." Fluker did so and slammed the firebox door. The train continued on its way, minus one live rattler.

Who can tell us about other invasions of locomotives by snakes, birds or beasts?

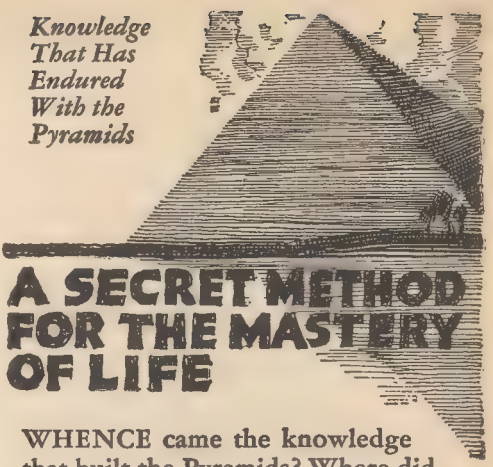
* * *

LAST STOP is the Reader's Choice Coupon (page 134) which guides your editorial crew in selecting material for future issues of *Railroad Magazine*. Some readers use the coupon. Other prefer not to clip the magazine; they send home-made coupons, postcards or letters. Regardless of how votes are given, all count the same. Results of balloting on the December issue show as follows:

1. Fight for Survival, *Canton*
2. *Electric Lines, Slick*
3. Twelve Weeks on the Pike, *Kilpatrick*
4. *Light of the Lantern* (Steam Drying)
5. Shriners and Streamliners, *Kelso*
6. Romance of Station Bells, *Hubbard*
7. Troubles Made to Order, *Norwood*
8. *On the Spot*
9. Traveling Auditor, *James*
10. "—and Busily All the Night . . ."

Most popular photos: 54, 31, 130

Knowledge That Has Endured With the Pyramids



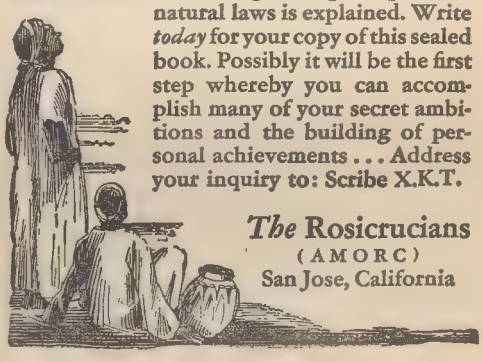
A SECRET METHOD FOR THE MASTERY OF LIFE

WHENCE came the knowledge that built the Pyramids? Where did the first builders in the Nile Valley acquire their astounding wisdom that started man on his upward climb? Did their knowledge come from a race now submerged beneath the sea? From what concealed source came the wisdom that produced such characters as Amenhotep IV, Leonardo da Vinci, Isaac Newton, and a host of others?

Today it is known **that they discovered and used certain *Secret Methods* for the development of their inner power of mind. They truly learned to master life. This secret art of living has been preserved and handed down throughout the ages and today is extended to those who dare use its profound principles to meet and solve the problems of life in these complex times.**

This Sealed Book—FREE

The Rosicrucians (not a religious organization) have prepared an unusual book, which will be sent free to sincere inquirers, in which the method of receiving these principles and natural laws is explained. Write *today* for your copy of this sealed book. Possibly it will be the first step whereby you can accomplish many of your secret ambitions and the building of personal achievements . . . Address your inquiry to: Scribe X.K.T.



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Railroad Camera Club

H. Reynerson

On the Mojave Desert photographer Reynerson caught photographer H. L. Kelso. Kelso handled *Railroad Magazine's* December photo feature, "Shriners and Streamliners." Tracks are ATSF a mile east of Barstow, Calif.

ITEMS sent to the *Switch List* and *Model Trading Post* are published free, in good faith, but without guarantee. Write plainly and keep 'em short. Print name and complete address.

Because of time needed to edit, print and distribute this magazine, all material should reach the Editor eight weeks before publication date. Redball handling is given to items we get the first week of each month, if accompanied by latest Reader's Choice Coupon (clipped from page 134 or home-made).

Due to scarcity of space, we prefer that no reader be listed here oftener than once in three months.

Use these abbreviations: *photo.*, photograph; *cond.*, condition; *ea.*, each; *elec.*, electric; *env.*, envelope; *eqpmt.*, equipment; *esp.*, especially; *info.*, information; *n.g.*, narrow-gage; *negs.*, negatives; *p.c.*, postcard; *pref.*, preferably; *tr.*, train.

(R) indicates desire to buy, swap or sell back issues of *Railroad Magazine* or its predecessors, *Railroad Man's Magazine* or *Railroad Stories. (Specify condition of each copy.)*

(*) indicates juicefan appeal.

Switch List

B. V. ANSTETT, 1014 Irving, Royal Oak, Mich. would like to hear from Grand Trunk Western and Milwaukee Road fans, also rail-photographers on all roads.

(*) DONALD AUSTIN, High St., Troy, N. H., will send 6 Conn. Co. transfers for 6 clear transfers.

EDWARD BABCOCK, Thompson, Nebr., sells 3½x5 photos trs., scenes on RI, CB&Q, UP, 5 for 35c; list, sample 10c.

(R) ROBERT K. BAIN, 5714 Woodlawn Ave., Chicago 37, Ill., will sell *Railroad Magazine* Apr. '32 to Dec. '42 comp., 7 diff. issues '30, '31, all good unclipped cond., for best offer. Will ship exp. collect. No single copies.

GEOFFREY R. BARKER, 32 Springfield Rd., Thornton Heath, Surrey, England, wishes exch. back issues *Trains, Model Railroader* or photos ATSF, UP for British rail mags. or photos. Answers all mail.

(*) H. E. BENNETT JR., 1804 No. Mount St., Baltimore 17, Md., has photos historic BTC Guilford Ave. elevated trestle abdn. Jan. 1, '50; photos taken Dec. 30, '49; set 16 views $1; size 2¾x4.

(R) C. A. BIRD, 264 E. Hurley St., West St. Paul 7, Minn., will sell *Railroad Magazine*, emp. tts., rulebooks, tr. ords., passes, other misc. railroadiana. List for stamp.

(R) FRED C. BRENNER, 5 Montrose Rd., Berkeley 7, Calif., will sell *Railroad Magazine* June, Oct. '44; Jan., Mar., May, July, Aug., Dec. '45; Jan., Mar. to May, July, Aug., Dec. '46; all '47, '48, '49, lot for $7.

(R) A. J. BURKETT, 1834 Maria St., Mudesto, Calif., wants Sept. '48, June '50 *Railroad Magazine.*

TOM CLAREY, Cass St., Portage, Wis., age 91, started railroading when 16, would like to hear from old friends, all U. S.

(*) R. L. COOPER, 2632 Troost Ave., Kansas City 8, Mo., buys, sells, trades railroadiana; list for stamp; wants old tts. Milw. Rd. abdn. lines. Will sell *The Local*, NRHS K. C., Chapter pub., 10c ea.

(*) O. R. CUMMINGS, 23 Main St.,Amesbury, Mass., offers his 1951 12-pg. list New England trolley photos, 6c in stamps. No stamped envs.

(R) A. T. DEMPSTER, 14446 Langacre Rd., Detroit 27, Mich., will sell *Railroad Magazine* '32 to '36; unclipped, good cond.; 25c ea. for '32 to '34; all others, 15c.

JOHN D. DETLEFSEN, 333 King Ave., Waynesboro, Va., will sell *Railway Guide* Nov. '41, Sept. '42, Dec. 48, singly or as lot, good cond., $1.25 ea., p.p.

F. L. DONNENWORTH, 3324 Clydesdale St., New Westminster, B. C., Canada, will sell *Trains* mags. '44 to '49, 25c ea., good cond.

JACK EMERICK JR., Banta Lane, Boonton, N. J., will sell or trade *Baldwin Locomotive Magazine* Apr. '38, scrap book Chilean, English, Russian, Austrian, German, French rys., both good cond., for DL&W, NP photos.

RAILROAD CAMERA CLUB is open to all who collect railroad or streetcar pictures or other railroadiana such as timetables, passes, train orders, trolley transfers, magazines, books, etc. There are no fees, no dues.

Membership card and pin are given free to anyone sending us the latest Reader's Choice Coupon and self-addressed stamped envelope. If you don't want to clip page 145 make your own coupon. Address *Railroad Magazine*, 205 East 42nd Street, New York 17. Tell us what you want or what you offer; otherwise your name will not be printed here.

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AL EPSTEIN, Portage, Wis., RR man for 35 yrs.; would like to hear from old friends, all U. S.

(*) LOUIS J. EURINGER, 2034 No. 35th St., Milwaukee 8, Wis., is selling 600 size 616 juice negs. from Speedrail, TMER&T, Twin City Lines, CNS, 10c to $1.25; photos 15 for $1., p.p.; 35 mm. Kodachrome slides, negs. 25c to $2.50; No list, state wants. Also size 616 Kodak camera, f6.3 lens, 1/100 shutter, new bellows, fine cond., $35. p.p. No CODs.

J. HARRY FELDEN JR., 3345 Richmond St. Philadelphia 34, Pa., will sell *Model Railroad* bound Vols. 13, '46; 14; '47, new cond., $3.75 per vol.; *Trains* Jan., May, Aug., Oct., '42, 50c ea.; bound Vol. 5 $6., Vol. 6 $3.75, new cond.; unbound Vols. 6, 7, 8, 9, new cond., $3 vol., add 10% postage.

(*) EDWARD T. GIBBS, 729A Macon St., Brooklyn 33, N. Y., will sell large variety street car negs. NYCTS, Conn. Co.; send stamped, addressed env. for list. Wants photos, negs. buses in eastern U. S. prior '42, esp. around New York City.

(R) W. O. GIBSON, Rm. 412, Santa Fe Bldg., Amarillo, Tex., will sell to highest bidder for lot *Railroad Magazine*, some clipped but reinserted, others good cond. Jan. to Apr. '30; July '30 to July '32; May '33 to Oct. '33; Dec. '33 to Oct. '34; Aug. '35 to Nov. '41; Feb. '42 to Oct. '42; Aug. '43 to Oct. '43; Dec. '44; Feb. '45 to Aug. '45; Oct. '45; most issues to date. State offer. Also have *Trains* mags.

REV. CANON GODFREY, c/o Bishop's Office, Queen Emma Square, Honolulu, Hawaii, wants to corres. with fans interested in overseas pikes.

JOHN GOLANKIE JR., you did not give your address.

CHARLES H. GREINER, 106 No. Sunset Blvd., Temple City, Calif., will buy, sell or trade tkts., passes, waybills, Co. envs., emp. tts. Nevada Ghost RRs.

GEO. HARRIS, 824 Moncton Ave., E. Kildonan, Manitoba, Canada, sells CP, CN, small Canadian lines, elecs; also GN, NP, Soo, Milw. Rd., C&NW, other western U. S. lines. All types RR photos, size 616, 15 for $1.; free list, sample.

(R) STANLEY M. HAUCK, 39 Flynt St., No. Quincy 71, Mass., will sell *Railroad Magazine* '33 to '47, 95 var. issues; *Railway Age* '32 to '34, var. issues; *Transit Journal*, all '38 to '42; *Mass Transportation*, July '40 to Dec. '44 compl.; 20c ea., send stamp for list. About 150 tts., '31 to '34, many small rds., to best offer; will not break tt. group.

(*) DICK HEIMANN, 2378 No. Tanoble Dr., Altadena, Calif., wants to buy photos elec. or old RR eqpmt., pref. negs.; also literature pertaining to elec. or old-time RRs.

(R*) L. G. HILL, Box 844, Lincoln 1, Nebr., will sell *Railroad Magazine, Trains, Official Guide*, recent issues; free list. Will buy *Electric Railway Journal*, unbound '10 to '42.

T. M. HOWARD, 313 W. 33rd St., New York, N. Y., is no longer collecting or selling railroadiana.

J. B. HOWELL, Box 402, Shelby, N. C. collects photos Florida East Coast Ry., esp. 400, 800 series pass. locos.

I. W. KING, 212 W. Earle St., Greenville, S. C., will sell large collec. emp tts., emp. mags., *Railway Engineering & Maintenance, Railway Age, Model Railroader*, tinplate catalogs, reasonable. State wants.

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Alden Clark

Of 1910 vintage, B&M's *Consolidation* 2410 leaves Wedgemere, Boston-bound from Stoneham during morning commuter rush

(R) R. H. KITCHELL, Riomar, Vero Beach, Fla., wants *Railroad Magazine* prior '45; will trade emp. tts., tr. ords. Also will trade tts. for other railroadiana.

C. KOWAL, DDS, 1846 Cullerton St., Chicago 8, Ill., will trade or sell dupl. old tinplate catalogs, photos.

PETER KROP, 251 E. 7th St., New York 9, N. Y., will sell size 116 steam negs., 10c ea.; photos 25 for $1. No list. State wants.

(R) ROBERT A. LEMASSENA, 2249 Elm St., Denver 7, Colo., wants Dec. '49 *Railroad Magazine;* will exch. or sell large collec. annual passes, dating to 1854; send your want list. Also have fine collec. old Colo. RR tts., booklets, maps, etc. Send stamp for list.

D. H. LONG-HURST, 2841 Freeport Blvd., Sacramento 14, Calif., wants all possible info. on Nevada Co. n. g. RR, esp. photo. Send list, price.

BILL MACLAUGHLIN, Portage, Wis., started railroading at 16; would like to hear from old friends, all U. S.

E. D. McDONELL, 194 Broadway Ave., Shawinigan Falls, Quebec, Canada, will pay 15c ea. for clear size 616 photos CP locos, 418, 421, 431, 436, 450, 454, 473, 482, 485, 486, 490, 491.

(R) BOBBY McGEE, Rte. 3, Bryan, Tex., wants *Railroad Magazine* '49 compl.; Mar., Apr. '50, good cond., unclipped. State offers.

WM. MILLER, 34 Waterside Ave., Galt, Ont., Canada, will buy photos, negs. Diesels CPR, CNR, Wabash, NYC, Soo; also Wabash steam power, class H-11, 4-6-0 type, 1630 to 1635, used to operate on Buffalo Div. in Canada.

(*) JAMES A. MULLIKEN, 1263 So. Peach St., Philadelphia 43, Pa., will buy 2x2 color slides; size 116, 616 photos abdn. trolley lines vicinity Phila., Wilmington, south Jersey, certain other lines. Also photos certain steam lines; or will trade. Send for lists.

SATYENDRA NARAYAN, Naya bazar, Bhagalpur City, Bihar, India, wants to corres. with RR fans interested in travel, Nat'l. Geog. Society, natural history or hunting.

(R) MICHAEL NARDELLA, 1718 No. Monroe St., Arlington, Va., will sell *Railroad Magazine* '38 to '50, reasonable, most good cond.; send for list.

(R) Mrs. O'CONNOR, 774 E. Villa, Pasadena 4, Calif., wants *Railroad Magazine* Feb. '39 *Logging RR* article; May '41 *The Modern Logging Road;* Sept. '42 *A 24-Mile Logging Pike.*

P. PAINTER, 12 Ridge Rd., Nutley 10, N. J., will swap Erie air-hose, '47 *Railway Equipment Register,* 127 camera for elec. RR air-whistle, air-horn or semaphore signal.

(*) HENRY G. PETERMANN, RFD 2, Narrowsburg, N. Y., has size 620 trolley photos BQT, TATS (Yonkers), PSCT, Queensboro. Bridge, Scranton, Laurel, Wilkes-Barre and Mt. Beacon Incline. Photo, list 10c.

ED PFEIFFER, 460 Montgomery Ave., Haverford, Pa., sells size 116 photos PRR, RDG, NH locos; many recently scrapped. List, sample 10c.

C. R. PHLEGAR, 534 So. Wittenburg Ave., Springfield, O., wants photos of old *Fantail* engs. 171 to 74; also

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(R) JOHN T. PICKEN, 152 Homestead Ave., Amityville, N. Y., wants Nov., Dec. '47, *Railroad Magazine.*

JOHN PICKETT, 3537 Locust St., Philadelphia 4, Pa., buys negs. steam engs., size 616 B&M, Rutland, Central Vermont, MEC, NH, D&RGW, Western Pac. Write before May 25.

STANLEY PRESCOTT, 70 Pleasant St., Rockland, Me., will sell size 116 photos Oahu Ry., New England, Southern rds.; send 10c for list, sample.

W. H. N. ROSSITER, R. R. #2, Oakville, Ont., Canada, wants *Baldwin Locomotive Magazine* July, Oct. '22; Jan., Apr., Oct., '23; Apr., July '24; will pay cash or trade 21 var. copies *Railway & Locomotive Engineering* '25 to '28, good cond., many articles covering motive power of that period. Trade 3 copies for ea. *Baldwin.*

FREDERIC SHAW, 4 Third St., Sausalito, Calif., wants good photos of old logging locos. built from traction engs. equipped to run on trk. made of logs. Will pay for those accepted, return others.

(R) JAMES C. SHEPHERD, 5576 Fairview Ave., Detroit 13, Mich., will sell 184 *Railroad Magazine,* $20 plus postage; all '33 exc. Apr.; all '34 to '43; all '44 exc. Dec.; all '45 to '47; Jan., Feb., Mar., '48; also extra issues Oct. '45, Feb. '46, Apr. '47.

KENNETH SHUKER, 81 Main St., Brewster, N. Y., has back issues *Popular Science, Popular Mechanics, Mechanix Illustrated, Science and Mechanics, Radio & Television News, Radio Electronics, Field & Stream,* perf. cond., 3c stamp for list; state your own price.

DWIGHT A. SMITH JR., 89 Woburn St., Reading, Mass., will sell size 616 photos all classes B&M steam power; also some B&C, CPR, CV, D&H, MoC, PTCo, Rutland; 10c ea. List for stamp.

JOHN STANEK, 849 Fifth St. SE, Mason City, Ia., wants photos, info., emp. tts. old-time short lines in Colo. or Nev., esp. Colo. Midland, Florence & Cripple Creek

RONALD TENNEY, Baptist Bible Seminary, Johnson City, N. Y., will sell *Trains* '49; *Model Railroader* '48, '49; misc. mags.

(R) ARTHUR VIERECK, 808 No. Hidalgo, Alhambra, Calif., wants *Railroad Magazine* '47, '49, good cond.; will trade *National Geographic,* good cond., Oct. '38; Jan., Feb., Apr. to Nov. '48; Jan. to June '49; Jan. to June, Aug. '50.

HARRY R. WALES, 107 Queensway, R. R. 1, Freeman, Ont., Canada, wants to trade CNR, CPR size 616. 620 photos, negs., steam power with Canadian fans.

EDWARD H. WEBER, 8 Garden Ave., Chatham, N. J., will sell photos DL&W, CRRNJ engs., stations, towers, tr. ords. var. rds.; list for stamp. Wants photo DL&W station Lafayette, N. J., prior Mar. '48.

(R) A. P. WILLIAMS, 13752 Ainsworth St., Gardena, Calif., will sell *Railroad Magazine* '45 to '49 compl., $2 ea. yr.; if sold compl., 10 copies odd mos. '43 to '44 included free.

H. WINTHER, Box 461, Harrington Park, N. J., has 200 negs., size 616 Bergen County, N. J. RRs, DL&W, RDG, L&HR; will sell or trade for 00 gage model eqpmt.

ERNEST LEHMANN, RFD 2, Box 138, Boyd., Minn., will sell loco. and tr. photos CMStP&P, M&StL, C&NW, GN, size 620, 25 for $1; 3½x5, 15 for $1; list, sample 10c. Wants to correspond with CMStP&P emps. and fans.

Model Trading Post

RALPH H. CALVERT, 1132 Wabash Ave., Ft. Wayne 4, Ind., offers large list Lionel, AF, O, std. gage; list for stamp. Wants Lionel std. loco 392, AF std. loco 4672.

A. F. CLOW, 503 Randolph St. NW, Washington 11, D. C., will sell HO, Marklin, Trix tr. sets less than retail. Also repair same makes.

GEORGE E. DATH, 48 W. Front St., Mokena, Ill., will sell circa 1923 Ives std. gage pass. tr. set; 3 deluxe pass. cars 21 in., 18 in., some trk.; '33 Lionel elec. eng.; all $90, or split set.

M/Sgt. GEOFFREY S. DAWSON, 3rd Det. 4050TH ASU TAC, Ft. Sill, Okla., will trade 8 *Poor's Manual* 1873 to 1930; 2 *Appleton's Railroad Guide* 1879, 1895, all good cond., collectively or individually for any type Lionel O gage eqpmt.

J. HARRY FELDEN JR., 3345 Richmond St., Philadelphia, 34, Pa., has all-metal hopper, flat, reefer cars, all built-up, painted, with sprung trucks, $1.25 per car with trucks, p.p.; also '46 model 2-6-2 Lionel loco,

Canadian National Railways

CNR Northern 6235 pops off excess power. It's one of 30 built in Montreal in 1943-44

slightly used, without whistle in tender, $8. plus shipping charger. Lionel '46 model box with knuckle couplers, $2.50.

PETER FOLLO, 536 No. Jefferson St., Lancaster, Wis., will sacrifice large Lionel layout, $200 or sell by piece; going into HO gage.

KAY FRAZIER, c/o Mike Maguire, Claremont, N. H., wants *Flying Yankee* streamliners, cars, good cond., not necessarily the motor; also old-style O gage AF, Lionel baggage cars.

ROBERT KREBS, 5925 NE 29th Ave., Portland 11, Ore., will sell O gage GMC street car, good cond., $3.50 or swap for Lionel automatic car.

J. MURRAY, 106 Main St., Wareham, Mass., will sell 1 steam-driven, 1 gas-driven miniature train, good cond., pass. carrying, park type. Photo, details, 25c coin.

T. J. PELLETIER, Rte. 1, Potlatch, Idaho, wants Lionel loco 1666, tender 2689W with pass. or frt. cars to fit box, gondola, caboose 2679 to 2682; also Lionel pass. cars 603, observation 604, box 814, refrigerator 814R.

JOHN T. PICKEN, 152 Homestead Ave., Amityville, N. Y., wants Lionel pre-war 2956, 0 gage hopper car with working hopper doors.

Flagstops

RAILROADIANS OF AMERICA have now issued the sixth in their series of decorative calendars devoted to railroading. This one recounts the history of the Mt. Gretna Narrow Gage Railway which operated between Mt. Gretna and Governor Dick Mountain in Lebanon County, Pa., between 1889 and 1915. The calendar (for 1951) includes a roster of the locomotives used on the Mt. Gretna, a map of Pennsylvania showing the route, and pictures of two of the little *American* type engines used on this 2-foot gage shortline which connected with the Cornwall & Lebanon, now part of the Pennsy. Copies of this calendar may be had for 50c postpaid, also earlier issues (as long as they last

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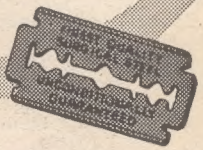

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